WAGNER

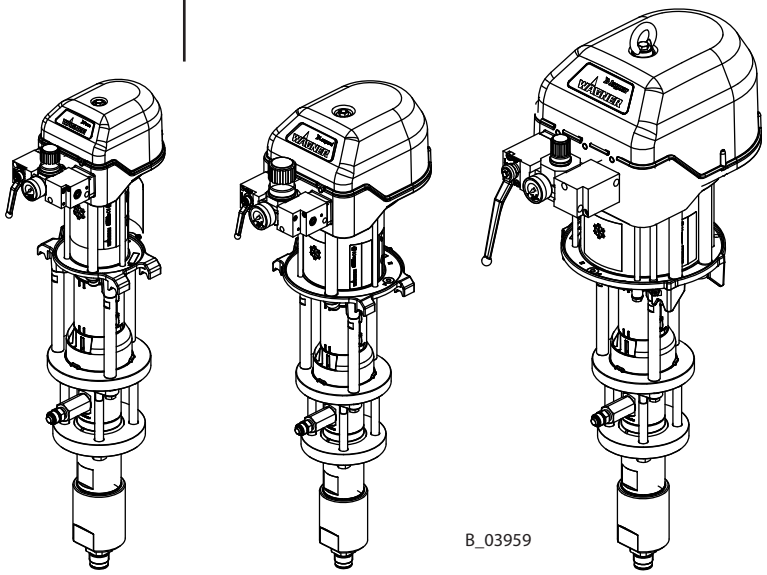
Translation of the Original Operating Manual

Puma	Leopard	Jaguar
8-300	18-300	38-300
3-600	8-600	

Version 02/2013

Icebreaker Piston Pumps

Flow Rate 300 cm^3 - 600 cm^3



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CE

Ex II 2G IIB c T3 X

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1 ABOUT THESE INSTRUCTIONS

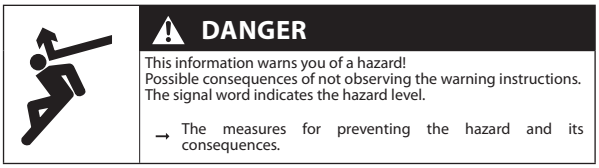
1.1 PREFACE

The operating manual contains information about safely operating, maintaining, cleaning and repairing the device.
The operating manual is part of the device and must be available to operating and service staff.
Operating and service personnel should be instructed according to the safety instructions.
The device may only be operated in compliance with this operating manual.
This equipment can be dangerous if it is not operated according to the instructions in this operating manual.

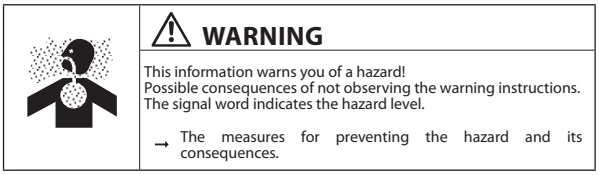
1.2 WARNINGS, NOTICES AND SYMBOLS IN THESE INSTRUCTIONS

Warning instructions in this operating manual highlight particular dangers to users and device and state measures for avoiding the hazard. These warning instructions fall into the following categories:

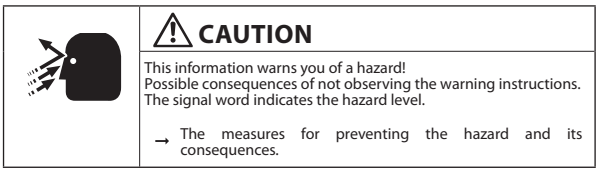
Danger - immediate risk of danger.
Non-observance will result in death or serious injury.



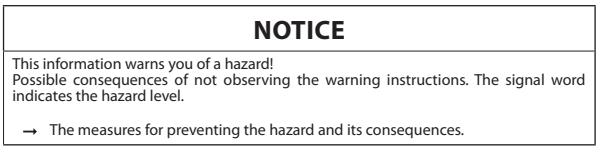
Warning - possible imminent danger.
Non-observance may result in death or serious injury.



Caution - a possibly hazardous situation.
Non-observance may result in minor injury.



Notice - a possibly hazardous situation.
Non-observance may result in material damage.



Note - provides information about particular characteristics and how to proceed.

1.3 LANGUAGES

The operating manual is available in the following languages:

Language	Order No.	Language	Order No.
German	2333547	English	2333548
French	2333549	Italian	2333550
Spanish	2333551		

The corresponding service instructions are available under the following order number:

Language	Order No.	Language	Order No.
German	2336589	English	2336590

1.4 ABBREVIATIONS IN THE TEXT

Stk	Number of pieces
Pos	Position
K	Marking in the spare parts lists
Order No.	Order number
DH	Double stroke
SSt	Stainless steel
2K	Two components

2 CORRECT USE

2.1 DEVICE TYPES

Pneumatic pump with spraypack:

Puma	Leopard	Jaguar
8-300	18-300	38-300
3-600	8-600	

2.2 TYPE OF USE

The device is suitable for processing liquid materials like paints and varnishes in accordance with their classification into explosion classes IIA or IIB.

2.3 USE IN AN EXPLOSION HAZARD AREA

The pneumatic pump can be employed in explosion hazard zones (Zone 1).

2.4 SAFETY PARAMETERS

WAGNER accepts no liability for any damage arising from incorrect use.

- → Use the device only to work with the materials recommended by WAGNER.
- → Only operate the device as a whole.
- → Do not deactivate safety fixtures.
- → Use only WAGNER original spare parts and accessories.

The pneumatic pump may only be operated under the following conditions:

- → The operating staff must be trained on the basis of this operating manual.
- → The safety regulations listed in this operating manual must be observed.
- → The operating, maintenance and repair information in this operating manual must be observed.
- → The statutory requirements and accident prevention regulation standards in the country of use must be observed.

2.5 PROCESSIBLE MATERIALS

→ Fluid materials like paints and varnishes.

NOTICE
Abrasive materials and pigments! Greater wear of parts carrying the material. → Use the application-oriented model (flow rate/cycle, material, valves, etc.) as indicated in Chapter 5.3.3. → Check if the fluids and solvents used are compatible with the pump construction materials as indicated in Chapter 5.3.1.

2.6 REASONABLY FORESEEABLE MISUSE

The following is prohibited:
→ coating work pieces which are not grounded,
→ unauthorized conversions and modifications to the pneumatic pump,
→ processing dry or similar coating materials, and
→ using defective components, spare parts or accessories other than those described in Chapter 10 of this operating manual.

The forms of misuse listed below may result in health issues and/or equipment damage:
→ use of powder as coating material and
→ incorrectly set values for processing.

Wagner pneumatic pumps are not designed for pumping food.

2.7 RESIDUAL RISKS

Residual risks are risks which cannot be excluded even in the event of correct use.
If necessary, warning and prohibition signs at the relevant points of risk indicate residual risks.

Residual risk	Source	Consequences	Specific measures	Lifecycle phase
Skin contact with paints and cleaning agents	Handling of paints and cleaning agents	Skin irritations, allergies	Wear protective clothing Observe safety data sheets	Operation, maintenance, disassembly
Paint in air outside the defined working area	Painting outside the defined working area	Inhalation of substances which are hazardous to health	Observe working and operating instructions	Operation, maintenance

3 IDENTIFICATION

3.1 EXPLOSION PROTECTION IDENTIFICATION

As defined in the Directive 94/9/EC (ATEX 95), the device is suitable for use in areas where there is an explosion hazard.

CE Ex II 2G IIB c T3 X

CE:	European Communities
Ex:	Symbol for explosion protection
II:	Device class II
2:	Category 2 (Zone 1)
G:	Ex-atmosphere gas
IIB:	Explosion group
c:	Constructional security
T3:	Temperature class: maximum surface temperature < 200 °C; 392 °F
X:	Special Notes (see Chapter 3.2)

3.2 IDENTIFICATION X

Maximum surface temperature
The maximum surface temperature of the piston pump can be reached if it runs dry.
→ Ensure that the piston pump is filled with sufficient working or flushing agent.
→ Ensure that the separating agent container is filled with sufficient separating agent.

Ignition temperature of the coating material
→ Ensure that the ignition temperature of the coating material is above the maximum surface temperature.

Ambient temperature
→ The permissible ambient temperature is: +5 °C to +60 °C; +41 °C to 140 °F.

Medium supporting atomizing
→ To atomize the material, use only weakly oxidizing gases, e.g. air.

4 GENERAL SAFETY INSTRUCTIONS

4.1 SAFETY INSTRUCTIONS FOR THE OPERATOR

→ Keep this operating manual at hand near the device at all times.
→ Always follow local regulations concerning occupational safety and accident prevention.

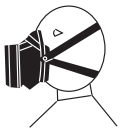
4.1.1 ELECTRICAL EQUIPMENT

Electrical devices and equipment
→ To be provided in accordance with the local safety requirements with regard to the operating mode and ambient influences.
→ May only be maintained by skilled electricians or under their supervision.
→ Must be operated in accordance with the safety regulations and electrotechnical regulations.
→ Must be repaired immediately in the event of problems.
→ Must be decommissioned if they pose a hazard.
→ Must be de-energized before work is commenced on active parts. Inform staff about planned work. Observe electrical safety regulations.

4.1.2 PERSONNEL QUALIFICATIONS

→ Ensure that the device is operated and repaired only by trained persons.

4.1.3 SAFE WORK ENVIRONMENT



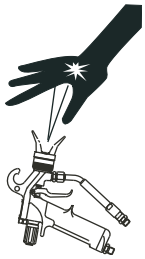
→ Ensure that the floor in the working area is electrically conductive in accordance with EN 61340-4-1 (resistance must not exceed 100 MOhm).
→ Ensure that all persons within the working area wear electrostatically conductive shoes. Footwear must comply with EN 20344. The measured insulation resistance may not exceed 100 MOhm.
→ Ensure that during spraying, persons wear electrically conductive gloves. The grounding takes place via the spray gun handle.
→ If protective clothing is worn, including gloves, it has to comply with EN 1149-5. The measured insulation resistance may not exceed 100 MOhm.
→ Paint mist extraction systems must be fitted on site according to local regulations.
→ Ensure that the following components of a safe working environment are available:
– Material/air hoses adapted to the working pressure.
– Personal safety equipment (breathing and skin protection).
→ Ensure that there are no ignition sources such as naked flames, sparks, glowing wires or hot surfaces in the vicinity. Do not smoke.

4.2 SAFETY INSTRUCTIONS FOR STAFF

→ Always follow the information in these instructions, particularly the general safety instructions and the warning instructions.
→ Always follow local regulations concerning occupational safety and accident prevention.

4.2.1 SAFE HANDLING OF WAGNER SPRAY DEVICES

The spray jet is under pressure and can cause dangerous injuries.
Avoid injection of paint or cleaning agents:



→ Never point the spray gun at people.
→ Never reach into the spray jet.
→ Before all work on the device, in the event of work interruptions and functional faults:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and device.
- Secure the spray gun against actuation.
In the event of functional faults: remedy the fault as described in the "Trouble Shooting" chapter.
→ The liquid emitters are to be checked for safe working conditions by an expert (e.g. Wagner Service Technician) as often as necessary or at least every 12 months, in accordance with the guidelines for liquid emitters (ZH 1/406 and BGR 500 Part 2 Chapter 2.36).
– For shut down devices, the examination can be suspended until the next start-up.
→ Carry out the work steps as described in the "Pressure Relief / Work Interruptions" chapter:
– if pressure relief is required.
– if the spraying work is interrupted or stopped.
– before the device is cleaned on the outside, checked or serviced.
– before the spray nozzle is installed or cleaned.

In the event of skin injuries caused by paint or cleaning agents:
→ Note down the paint or cleaning agent that you have been using.
→ Consult a doctor immediately.
Avoid danger of injury through recoil forces:
→ Ensure that you have firm footing when operating the spray gun.
→ Only hold the spray gun briefly in a position.

4.2.2 GROUNDING THE DEVICE

In order to avoid electrostatic charging of the device, the device must be grounded.
Friction, flowing liquids and air or electrostatic coating processes create charges. Flames or sparks can form during discharge.

→ Ensure that the device is grounded for every spraying operation.
→ Ground the work pieces to be coated.
→ Ensure that all persons inside the working area are grounded, e.g. that they are wearing electrostatically conductive shoes.
→ Wear electrostatically conductive gloves when spraying. The grounding takes place via the spray gun handle.

4.2.3 MATERIAL HOSES

→ Ensure that the hose material is chemically resistant to the sprayed materials.
→ Ensure that the material hose is suitable for the pressure generated in the device.
→ Ensure that the following information can be seen on the high pressure hose:
- Manufacturer
- Permissible operating overpressure
- Date of manufacture.

→ Make sure that the hoses are laid only in suitable places. In no case, should hoses be laid in the following places:
– in high-traffic areas,
– on sharp edges,
– on moving parts or
– on hot surfaces

→ Make sure that the hoses are never used to pull or move the equipment.
→ The electrical resistance of the complete high pressure hose must be less than 1 MOhm.

Several liquids have a high expansion coefficient. In some cases their volume can rise with consequent damage to pipes, fittings, etc. and cause fluid leakage.
When the pump sucks liquid from a closed container, ensure that air or suitable gas can enter the container to avoid a vacuum being generated in the container itself. Thus a negative pressure is avoided. The vacuum could implode the container (squeeze) and can cause it to break. The container would leak and the liquid would flow out.
The pressure created by the pump is a multiplication of the inlet air pressure.

4.2.4 CLEANING

- → De-energize the device electrically.
- → Disconnect the pneumatic supply line.
- → Relieve the pressure from the device.
- → Ensure that the flash point of the cleaning agent is at least 5 K above the ambient temperature.
- → To clean, use cloths and brushes moistened with solvent. Never use hard objects or spray on cleaning agents with a gun.
- → Preferably, non-combustible cleaning agents should be used.

An explosive gas/air mixture forms in closed containers.
- → When cleaning devices with solvents, never spray into a closed container.
- → Only use electrically conductive containers for cleaning liquids.
- → The containers must be grounded.

4.2.5 HANDLING HAZARDOUS LIQUIDS, VARNISHES AND PAINTS

- → When preparing or working with paint and when cleaning the device, follow the working instructions of the manufacturer of the paints, solvents and cleaning agents being used.
- → Take the specified protective measures. In particular, wear safety goggles, protective clothing and gloves, as well as hand protection cream if necessary.
- → Use a mask or a breathing apparatus if necessary.
- → For sufficient health and environmental safety: Operate the device in a spray booth or on a spraying wall with the ventilation (extraction) switched on.
- → Wear suitable protective clothing when working with hot materials.

4.2.6 TOUCHING HOT SURFACES

- → Touch hot surfaces only if you are wearing protective gloves.
- → When operating the unit with a coating material with a temperature of > 43 °C; 109.4 °F:
  - Identify the device with a warning sticker "Warning - hot surface".

Order No.	
9998910	Instruction sticker
9998911	Protection sticker

Note: Order the two stickers together.

4.3 USE IN AREAS SUBJECT TO EXPLOSION HAZARDS

The pneumatic pump may be used in areas subject to explosion hazards. The following safety regulations must be observed and followed.

4.3.1 SAFETY REGULATIONS

Safe handling of WAGNER spray devices

Mechanical sparks can form if the device comes into contact with metal.
In an explosive atmosphere:
- → Do not knock or push the device against steel or rusty iron.
- → Do not drop the device.
- → Use only tools that are made of a permitted material.

Ignition temperature of the pumped material
- → Check that the ignition temperature of the pumped material is higher than the max. allowable surface temperature.

Medium supporting atomizing
- → To atomize the material, use only weakly oxidizing gases, e.g. air.

Surface spraying, electrostatic

- → Do not spray system parts with electrostatic.

Cleaning

If there are deposits on the surfaces, the device may form electrostatic charges. Flames or sparks can form during discharge.
- → Remove deposits from the surfaces to maintain conductivity.
- → Use only a damp cloth to clean the device.

4.3.2 OPERATION WITHOUT FLUID

Avoid running the pump sucking air (without fluid inside). The air, combined with the vapor of flammable fluids, can generate internal areas with an explosion hazard.
Periodically check that the pump is working regularly, paying special attention to the presence of air in the pumped fluid, which may be caused by damaged packings.

→ Avoid operating the pump with damaged packing.
→ Ensure that the separating agent container is filled with sufficient separating agent.

5 DESCRIPTION

5.1 AREAS OF APPLICATION

5.1.1 CORRECT USE

The pneumatic piston pump is suitable for processing liquid materials according to Chapter 5.1.2.

5.1.2 PROCESSIBLE MATERIALS

Application	PUMA 8-300	PUMA 3-600	LEOPARD 18-300	LEOPARD 8-600	JAGUAR 38-300
Water-dilutable materials	↗	↗	↗	↗	↗
Solvent based varnish and paints	↗	↗	↗	↗	↗
Primers	↗	↗	↗	↗	↗
Epoxy and polyurethane paints and varnish	↗	↗	↗	↗	↗
Liquid plastics	↗	⇾	↗	⇾	↗
Wax based underside protection	↗	⇾	↗	⇾	↗
Oils	↗	↗	↗	↗	↗
Emulsions	↗	↗	↗	↗	↗
Filled paints	⇾	⇾	⇾	⇾	↗
Chemically aggressive materials that attack carbide seats	↘	↘	↘	↘	↘

Legend

↗ recommended ⇾ limited suitability ↘ less suitable

NOTICE

Abrasive materials and pigments!
Greater wear of parts carrying the material.

→ Use suitable combinations of devices (packings, valves etc.)

5.1.3 RECOMMENDED APPLICATION AREAS

Application	PUMA 8-300	PUMA 3-600	LEOPARD 18-300	LEOPARD 8-600	JAGUAR 38-300
Furniture industry	↗	↗	↗	↗	↗
Kitchen manufacturers	↗	↗	↗	↗	↗
Wood industry	↗	↗	↗	↗	↗
Window factories	↗	⇾	↗	⇾	↗
Steel-processing industry	↗	⇾	↗	⇾	↗
Construction of vehicles	↗	↗	↗	↗	↘
Automotive industry	↗	↗	↗	↗	↘
Corrosion protection operations	↗	↘	↗	↘	⇾
Original equipment manufacturer	↗	↗	↗	↗	↗
Contract coating companies	↗	↘	↗	↘	↘
Mechanical engineering	↗	⇾	↗	⇾	⇾
Plastics industry	↗	↗	↗	↗	↘
Municipal enterprises	↗	↘	↗	↘	↘

Legend

↗ recommended ⇾ limited suitability ↘ less suitable

5.2 SCOPE OF DELIVERY

Pneumatic piston pump consisting of:
- Fluid section
- Air motor
- Connection elements
- Air pressure regulator for air motor and ball valve

The scope of delivery also includes:

Separating agent 250 ml; 250 cc	Order No.: 9992504
Conformity certificate	See Chapter 12
Operating manual, German	Order No.: 2333547
Operating manual in the local language	See Chapter 1

The delivery note shows the exact scope of delivery.
Accessories: see Chapter 10.

5.3 DATA

5.3.1 MATERIALS OF PAINT-WETTED PARTS

Housing	Stainless steel
Piston	Stainless steel and hard chrome
Valve balls	Stainless steel
Valve seats	Carbide
O-rings	Teflon
Packings	Standard PE/ TG

PE = Ultra high molecular weight polyethylene
TG = Teflon (PTFE) with graphite

5.3.2 RECOMMENDED PACKINGS

WAGNER packings are manufactured in four different materials:

Code	Material	Color
L	Leather	dark brown
TG	Teflon with graphite	black
PE	Ultra high molecular weight polyethylene	transparent
T	Teflon	white

Each material has the following properties, which influence the packings:

	L	TG	PE	T
Mechanical stability	poor	good	good	poor
Friction coefficient	poor	very good	good	very good
Sealing force	good*	good	good	good
Chemical resistance	poor	good	very good	very good
Temperature resistance	good	poor - good	very good	poor

* for abrasive materials

Standard combinations:

Standard pumps	PE/TG
Heavy duty (high pressure) pumps	PE/L
Hardener pumps in 2-component systems	PE/T

⚠ WARNING

Outgoing air containing oil!
Risk of poisoning if inhaled.
Air motor switching problems.

→ Provide compressed air free from oil and water (Quality Standard 5.5.4 according to ISO 8573.1) 5.5.4 = 40 µm / +7 / 5 mg/m³.

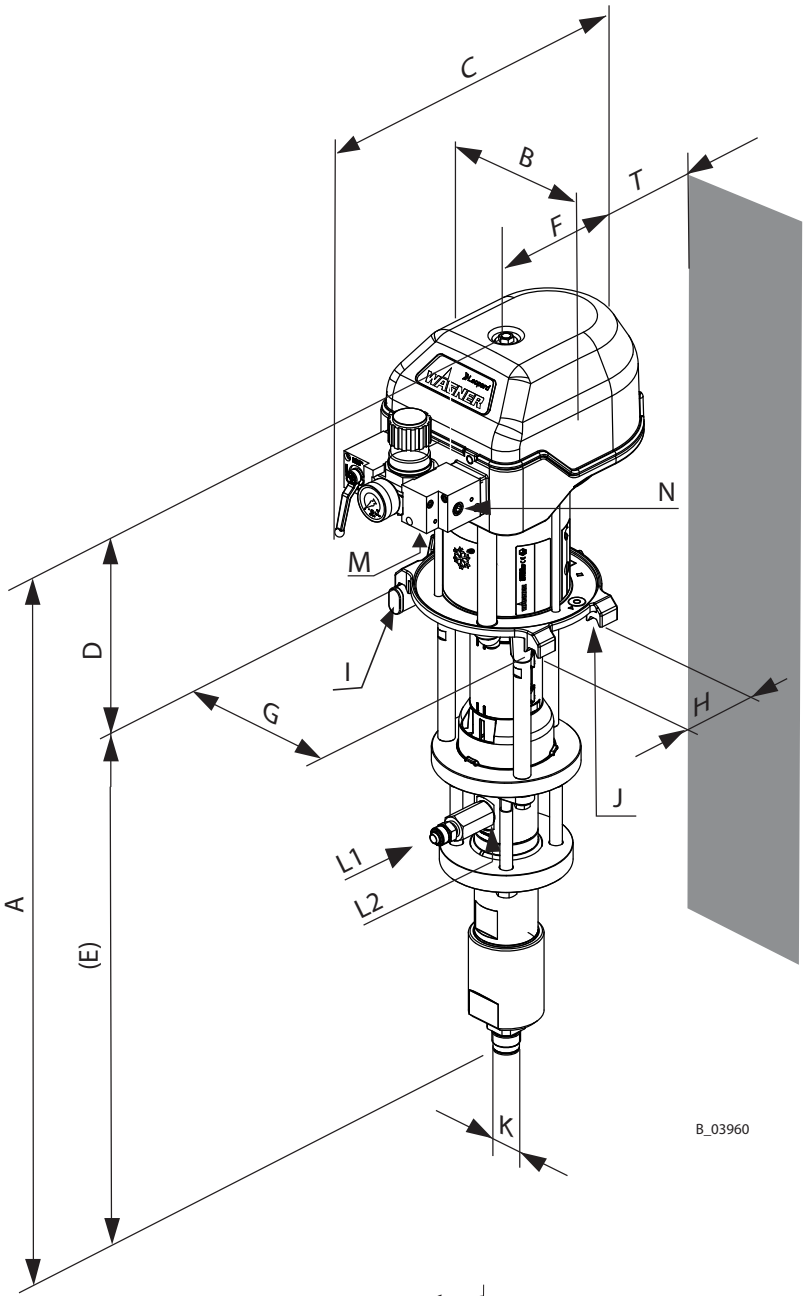
5.3.3 TECHNICAL DATA

Description	Devices	PUMA 8-300	PUMA 3-600	LEOPARD 18-300	LEOPARD 8-600	JAGUAR 38-300
Pump ratio		8 :1	3 : 1	18 :1	8 : 1	38 : 1
Flow volume per double stroke (DH)	cm³; cc	300	600	300	600	300
Maximum operating pressure	MPa bar psi	6.4 64 928	2.4 24 348	13.8 138 2002	6.2 62 899	27 270 3916
Maximum possible strokes in operation	DH/min	50				
Maximum recommended strokes per minute in continuous operation	DH/min	30				
Minimum / maximum air inlet pressure	MPa bar psi	0.25-0.8 2.5-8 36-116		0.25-0.77 2.5-7.7 36-112		0.25-0.71 2.5-7.1 36-103
Ø air inlet connection (inside thread)	inch	G 1/2"				G 1"
Minimum Ø of the compressed air supply line	mm inch	9 0.35		13 0.51		25 0.98
Air consumption at 0.6 MPa; 6 bar; 87 psi per double stroke	nl scf	16.5 0.58		37.3 1.32		79.9 2.82
Air motor piston diameter	mm inch	100 3.94		150 5.9		220 8.66
Air motor piston stroke	mm inch	150 6				
Sound pressure level at maximum permissible air pressure*	dB(A)	78		81		83
Sound pressure level at 0.6 MPa; 6 bar; 87 psi air pressure*	dB(A)	74		78		81
Sound pressure level at 0.4 MPa; 4 bar; 58 psi air pressure*	dB(A)	69		74		76
Material inlet (outside thread)		M36x2	G 1½"	M36x2	G 1½"	M36x2
Material outlet (outside thread)	mm	M24x1.5				
Material pH value	pH	3.5 ÷ 9				
Maximum material pressure at pump inlet	MPa bar psi	2 20 290				
Material temperature	°C °F	+5 ÷ +80 +41 ÷ +176				
Ambient temperature	°C °F	+5 ÷ +60 +41 ÷ +140				
Weight	kg lb	32 70	35 77	40 88	43 95	56 123
Allowable inclination for operation	<) °	± 10				

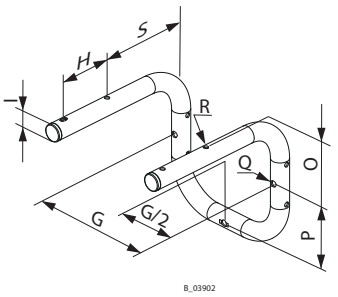
* A-rated sound pressure level measured at 1 m distance, LpA1m, according to DIN EN 14462: 2005. Reference measurements have been made by SUVA (Swiss accident insurance institute).

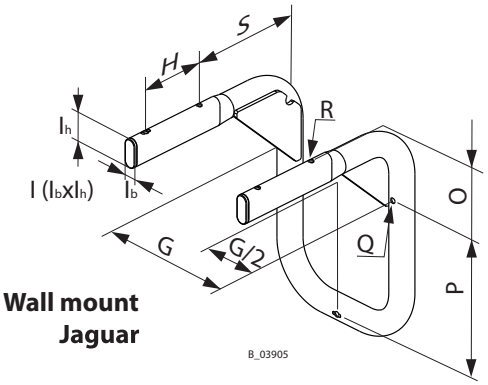
5.3.4 MEASUREMENTS AND CONNECTIONS

	Unit	PUMA 8-300	PUMA 3-600	LEOPARD 18-300	LEOPARD 8-600	JAGUAR 38-300
A	mm	972	992	1034	1055	1093
	inch	38.3	39.1	40.7	41.5	43.0
B	mm	169		240		304
	inch	6.7		9.4		12
C	mm	~ 321		~ 434		~ 581
	inch	12.6		17.1		22.9
D	mm	335		380		516
	inch	13.2		15		20.3
E	mm	637	657	654	675	577
	inch	25.1	25.9	25.7	26.6	22.7
F	mm	134		192		244
	inch	5.3		7.6		9.6
G	mm	182		230		
	inch	7.17		9.06		
Stroke	mm	80		110		
	inch	3.15		4.33		
I	mm	ø 25		20x35		20x48
	inch	ø 1		0.8x1.4		0.8x1.9
J	mm	M6				M8
K		M36x2	G 1½"	M36x2	G 1½"	M36x2
L1	mm	M24x1.5				
L2	inch	G 3/4"				
M	inch	G 1/2"				G 1"
N	inch	G 1/4"				
O	mm	106		129		135.5
	inch	4.17		5.1		5.3
P	mm	96.5		111.5		238
	inch	3.80		4.39		9.37
Q	mm	ø 9				
	inch	ø 0.35				
R	mm	ø 7				ø 9
	inch	ø 0.28				ø 0.35
S	mm	149		167		206
	inch	5.87		6.57		8.11
T	mm	55		30		17
	inch	2.2		1.2		0.67



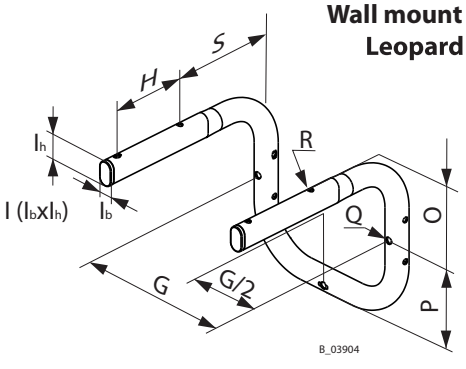
Wall mount Puma





Wall mount Jaguar

Wall mount Leopard



5.3.5 PERFORMANCE DIAGRAMS

Reading example

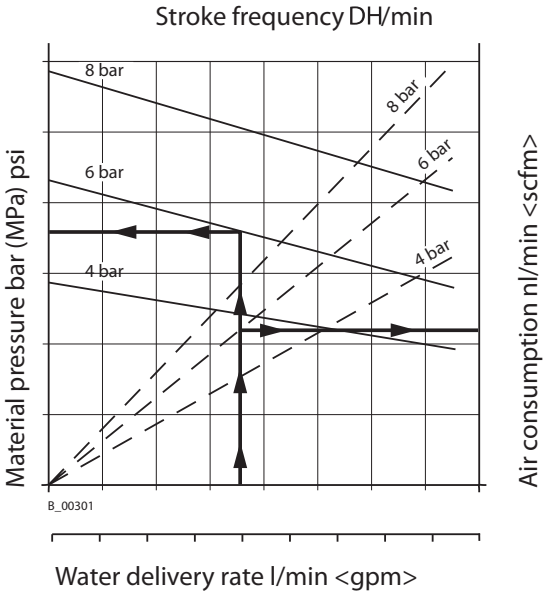
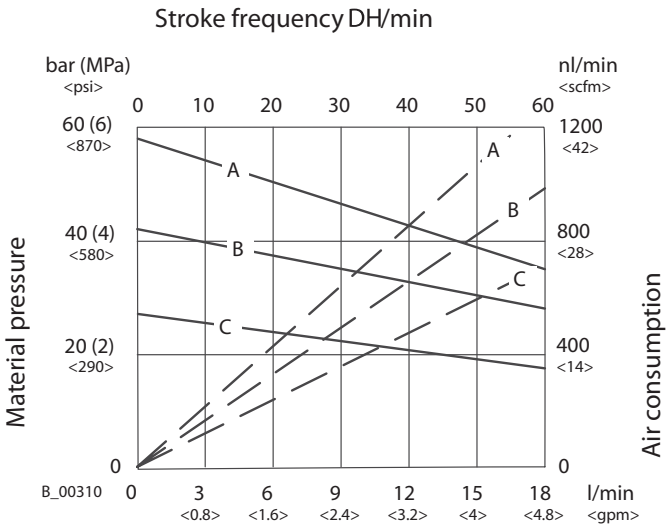
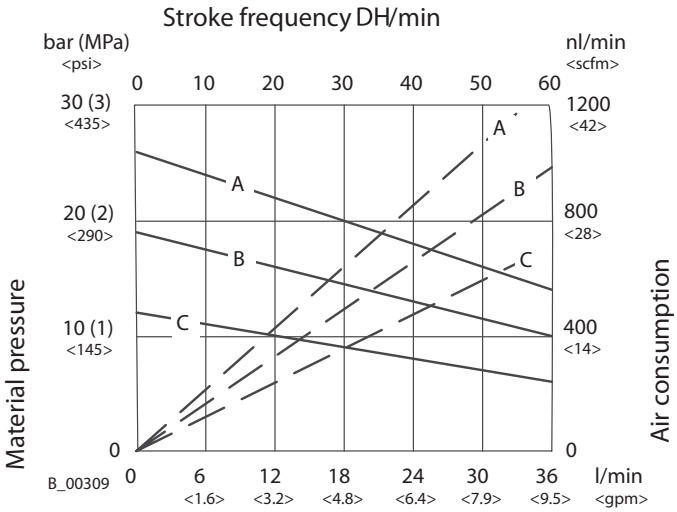


Diagram for PUMA 8-300



A = 8 bar (0.8 MPa/ 116 psi) air pressure
B = 6 bar (0.6 MPa/ 87 psi) air pressure
C = 4 bar (0.4 MPa/ 58 psi) air pressure

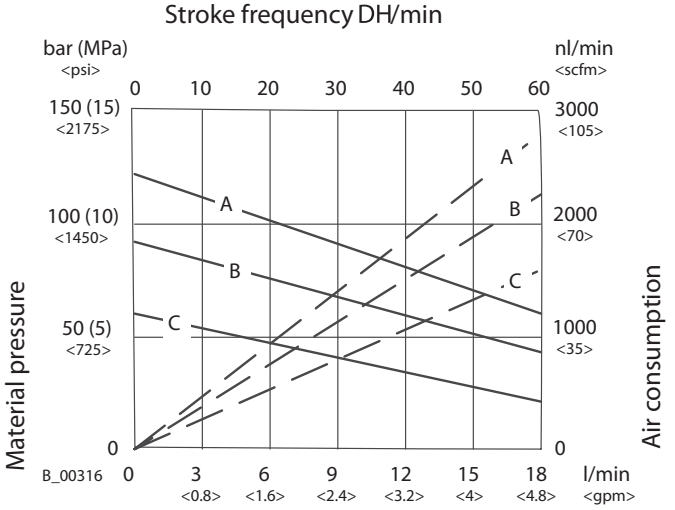
Diagram for PUMA 3-600



Water delivery rate

A = 8 bar (0.8 MPa/ 116 psi) air pressure
B = 6 bar (0.6 MPa/ 87 psi) air pressure
C = 4 bar (0.4 MPa/ 58 psi) air pressure

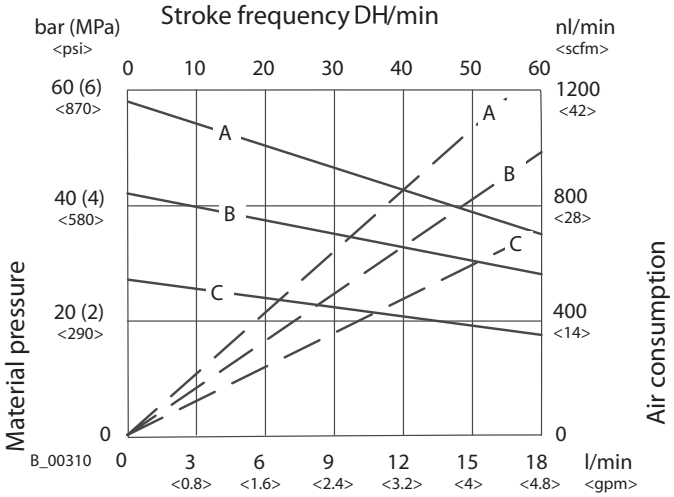
Diagram for LEOPARD 18-300



Water delivery rate

A = 7.7 bar (0.77 MPa/ 112 psi) air pressure
B = 6 bar (0.6 MPa/ 87 psi) air pressure
C = 4 bar (0.4 MPa/ 58 psi) air pressure

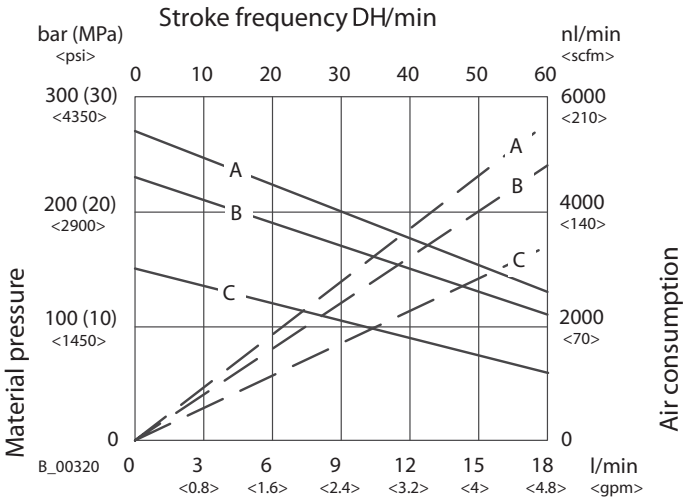
Diagram for LEOPARD 8-600



Water delivery rate

A = 7.7 bar (0.77 MPa/ 112 psi) air pressure
B = 6 bar (0.6 MPa/ 87 psi) air pressure
C = 4 bar (0.4 MPa/ 58 psi) air pressure

Diagram for JAGUAR 38-300

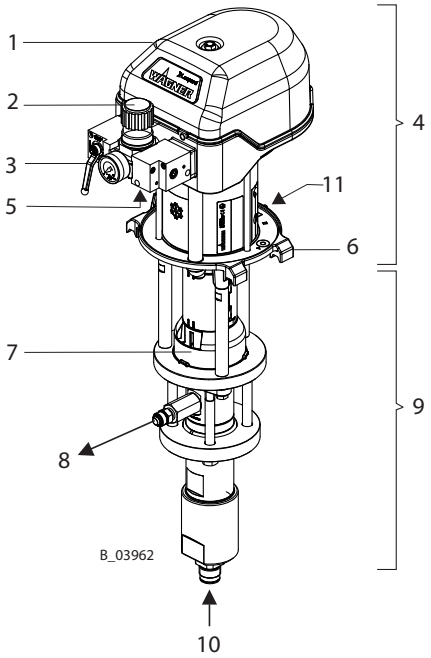


Water delivery rate

A = 7.1 bar (0.71 MPa/ 103 psi) air pressure
B = 6 bar (0.6 MPa/ 87 psi) air pressure
C = 4 bar (0.4 MPa/ 58 psi) air pressure

5.4 FUNCTION

5.4.1 PUMP



1 Control housing with integrated silencer
2 Air pressure regulator
3 Ball valve
4 Air motor
5 Compressed air inlet
6 Mounting flange
7 Separating agent cup
8. Material outlet
9 Fluid section
10 Material inlet
11 Grounding connection

Function principle
The piston pump is driven with compressed air (2). This compressed air moves the air piston up and down in the air motor (4) and it also moves the associated pump piston up and down in the fluid section (9).
In the control housing (1), the air pressure is redirected at the end of each stroke with the help of the reversing valve. The working material is sucked up during the upwards stroke and is continuously conveyed towards the material outlet (8) in both stroke directions.

Air motor (4)
The air motor with its pneumatic reverse (1) does not require pneumatic oil.
The compressed air is fed to the motor via the air regulator (2) and the ball valve (3).
The air motor is fitted with a safety valve. The safety valve has been set and sealed at the factory. In case of pressures over and above the permissible operating pressure, the valve, which is held with a spring, automatically opens and releases the excess pressure.

⚠ WARNING

Overpressure!
Risk of injury from bursting components.

→ Never change the safety valve setting.

Fluid section (9)
The fluid section has been designed as a piston pump with exchangeable ball valves and continuous lower packing. The pump pistons and working surface of the cylinder are hard chrome-plated. The upper and lower packings are automatically adjusted by pressure springs to achieve a long service life.
Between the air motor and the fluid section there is a separating agent cup (7) for holding the separating agent.

5.4.2 PRESSURE REGULATOR UNIT

1 Pressure regulator
2 Ball valve
3 Pressure gauge
4 Compressed air inlet

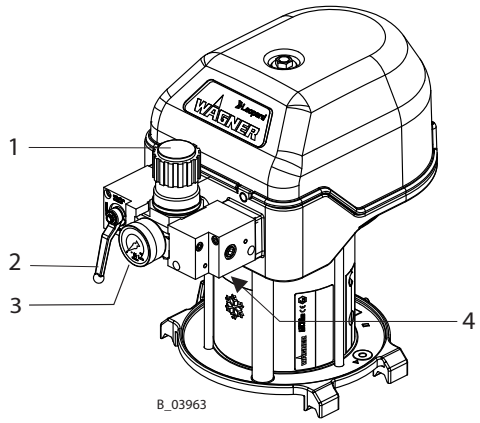
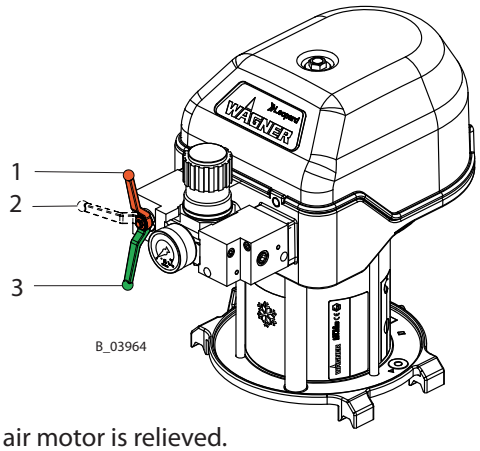


Illustration: Leopard 18-300



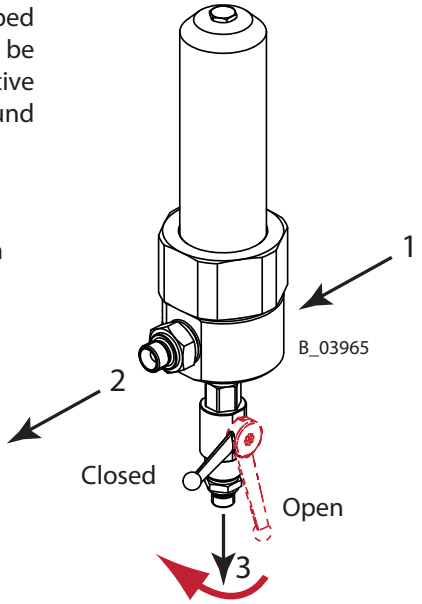
Positions of the ball valve

1 Closed: The operating pressure in the air motor is relieved. (Control air pressure is still present)
2 Closed: The air motor can still be under pressure.
3 Open: working position

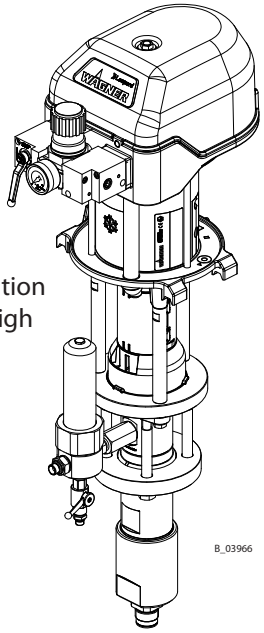
5.4.3 HIGH-PRESSURE FILTER (OPTION)

To ensure problem-free operation it is recommended that a WAGNER high pressure filter be used. These have been developed especially for WAGNER pneumatic pumps. The filter inserts can be exchanged depending on the material to be used. The respective high pressure filters and their inserts for the device can be found in the accessories list.

up to 530 bar; 7687 psi

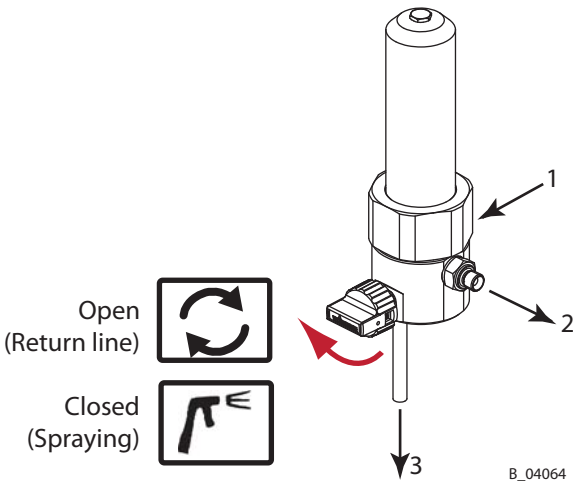


1 Fluid section connection
2 Material outlet
3 Return line



Preferred installation position of the high pressure filter

up to 270 bar; 3916 psi

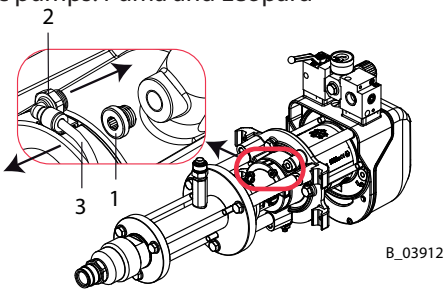


5.4.4 STROKE COUNT (OPTION)

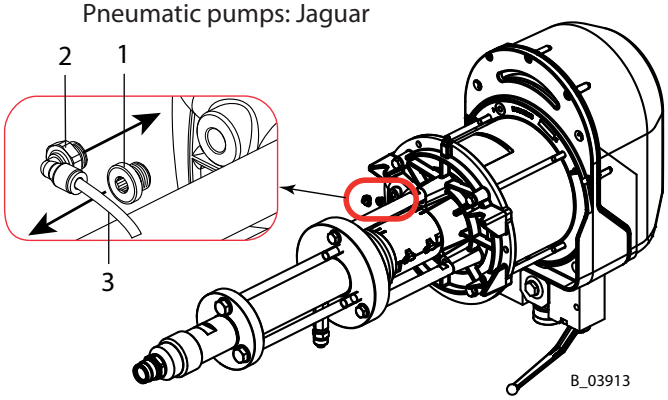
Each air motor has a 1/8" air connection with which the air pressure in the lower air motor chamber can be measured. This signal can be used for counting the strokes in an external control, for example.
The pressure signal corresponds to the set working air pressure and is available during the complete upwards stroke of the pump. If both of the signal flanks are evaluated, the upper and lower reversal point can be determined. A 4/2mm; 0.16/0.08 inch air hose is used as an air signal line.

Pos	Order No.	Designation
1	9998675	Threaded plug
2	9999066	Male stud elbow
3	9982072	Air hose (per meter)
4	9943049	Pneumatic pre-selection counter

Pneumatic pumps: Puma and Leopard



Pneumatic pumps: Jaguar



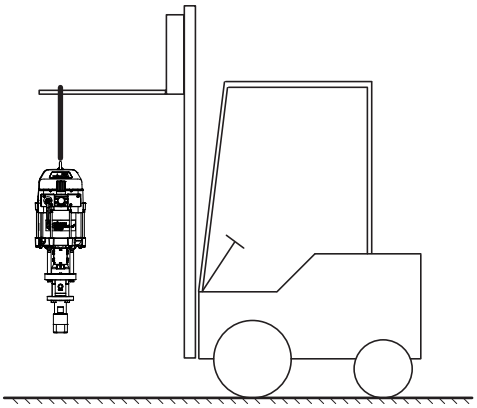
6 ASSEMBLY AND COMMISSIONING

6.1 TRANSPORTATION

Pump types: Puma and Leopard
The pump can be moved on a trolley (4"/6-Trolley) or manually without lifting equipment or a crane.

Pump type: Jaguar
The pump must be moved on a trolley (heavy duty trolley) or with lifting equipment or a crane.

Only pumps without trolleys may be lifted by the ring nut or ring bolt (see accessories) and transported short distances.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6.2 STORAGE

Store the pump in a closed and dry environment.
Thoroughly clean the pump, if a long-term decommissioning is planned.
When resuming pump operation, proceed as described in the following chapters.

⚠ WARNING

Discharge of electrostatically charged components in atmospheres containing solvents!
Explosion hazard from electrostatic sparks.

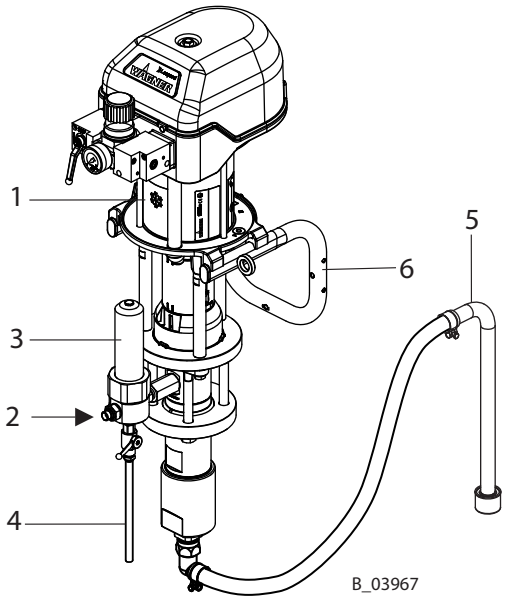
→ Clean the pump only with a damp cloth.

6.3 ASSEMBLING THE PUMP

Notice
This pump can be used as part of a spraying or feed system. The individual components are shown in the accessories, or can be arranged with a spraypack configurator. The nozzles must be selected according to the gun operating manual.

Procedure:

1. Mount the pump on a stand, a trolley or a wall mount (6).
2. Mount high pressure filter (3).
3. Mount suction system (5).
4. Mount return tube (4) or return hose.
5. Connect to material supply system or high pressure hose and gun in accordance with gun operating instructions (2).



⚠ WARNING

Inclined ground!
Risk of accidents if the device rolls away/falls.

→ Position the carriage with the piston pump horizontally.
→ If the surface is inclined, position the feet of the trolley towards the gradient.
→ Secure the trolley.

6.4 GROUNDING

⚠ WARNING

Discharge of electrostatically charged components in atmospheres containing solvents!
Explosion hazard from electrostatic sparks.

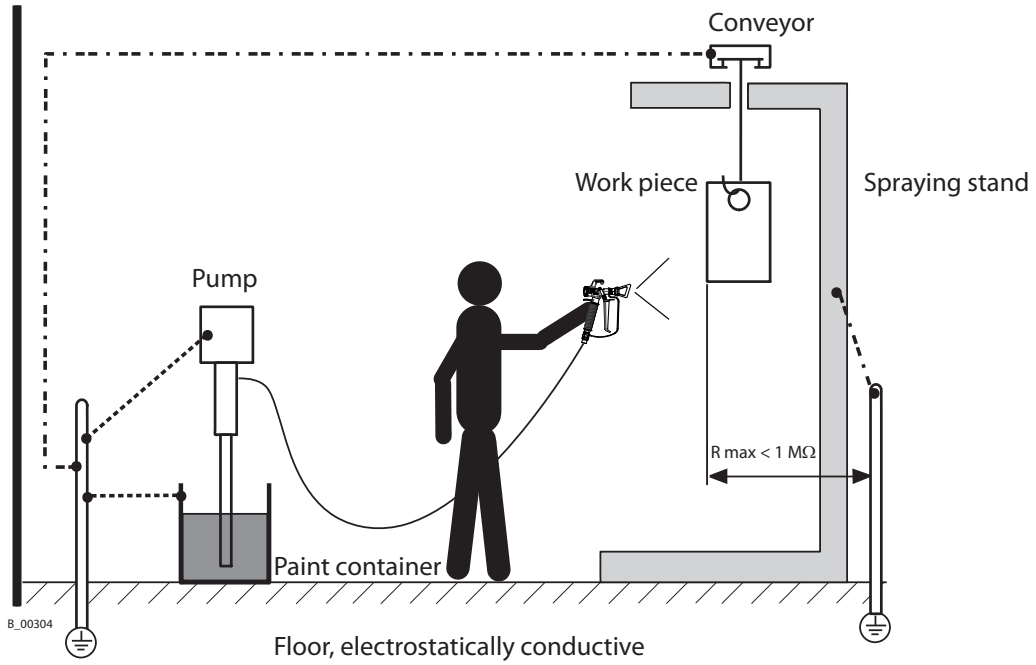
→ Clean the piston pump only with a damp cloth.
→ Ground all device components.
→ Ground the work pieces to be coated.

⚠ WARNING

Heavy paint mist if grounding is insufficient!
Danger of poisoning.
Insufficient paint application quality.

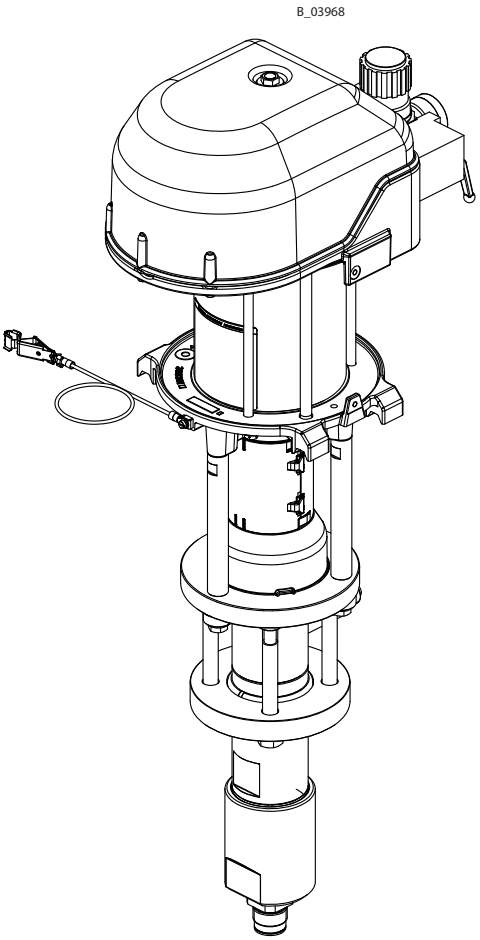
→ Ground all device components.
→ Ground the work pieces to be coated.

Grounding scheme (example)



Cable cross sections

Pump	4 mm²; AWG11
Paint container	6 mm²; AWG10
Conveyor	16 mm²; AWG5
	16 mm²; AWG5
Spray booth	16 mm²; AWG5
Spraying stand	



Procedure:

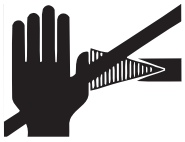
1. Screw on grounding cable with eye.
2. Clamp the grounding cable clip to a grounding connection on site.
3. Ground the material (paint) container to an on-site grounding connection.
4. Ground the other parts of the system to an on-site grounding connection.
   16 mm²; AWG5

6.5 COMMISSIONING

6.5.1 SAFETY INSTRUCTIONS

Every time before starting up, the following points should be observed as laid down in the operating manual:

- Observe all safety regulations in accordance with Chapter 4.
- Carry out commissioning properly.



⚠ WARNING

High pressure spray jet!
Danger to life from injecting paint or solvent.

→ Never reach into the spray jet.
→ Never point the spray gun at people.
→ Consult a doctor immediately in the event of skin injuries caused by paint or solvent. Inform the doctor about the paint or solvent used.
→ Never seal defective high pressure parts, instead relieve the pressure from them and replace them.

⚠ WARNING

Toxic and/or flammable vapor mixtures!
Risk of poisoning and burns.

→ Operate the device in a spray booth approved for the working materials.
- or -
→ Operate the device on an appropriate spraying wall with the ventilation (extraction) switched on.
→ Observe national and local regulations for the outgoing air speed.

⚠ WARNING

Gas mixtures can explode if there is an incompletely filled pump!
Danger to life from flying parts.

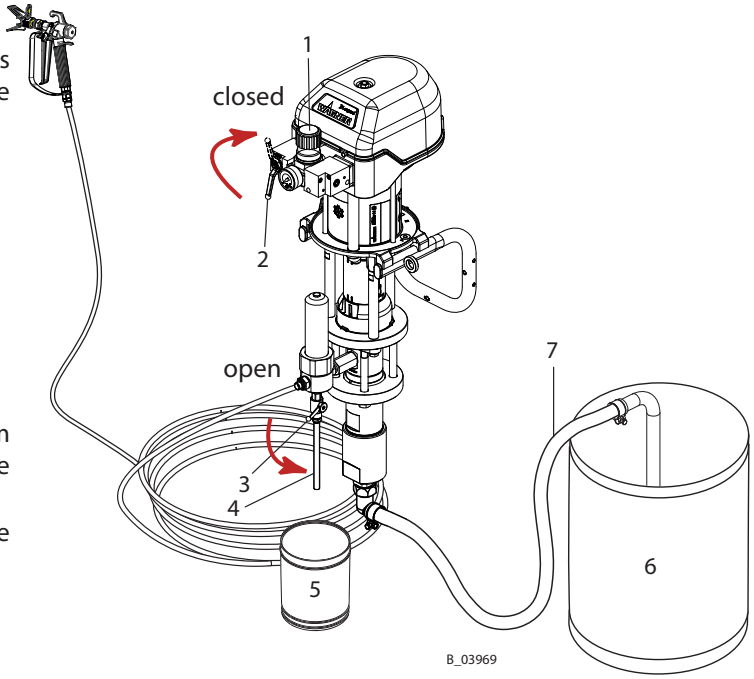
→ Ensure that the pump and suction system are always completely filled with flushing agent or working medium.
→ Do not spray the device empty after cleaning.

Before every start-up, the following points should be observed as laid down in the operating manual:

- Secure gun with safety clip.
- Check the permissible pressures.
- Check all connections for leaks.
- Check hoses for damage.

It should be ensured that the device is in the following state before carrying out any work on it:

- The pressure should be released from the pump and high-pressure hose with gun.
- The gun should be secured with the safety clip.
- Interrupt the air supply.



EMERGENCY STOP
In case of unforeseen occurrences the ball valve (2) should be closed immediately and the return valve (3) opened.

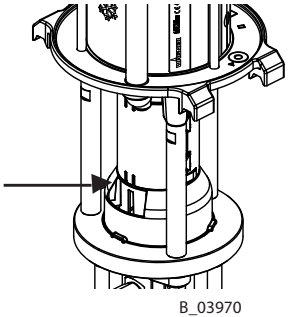
6.5.2 FILLING WITH SEPARATING AGENT

NOTICE

Piston pump dry run!
High wear/damage to the packings.
Paint or solvent can escape if the seals are dry.

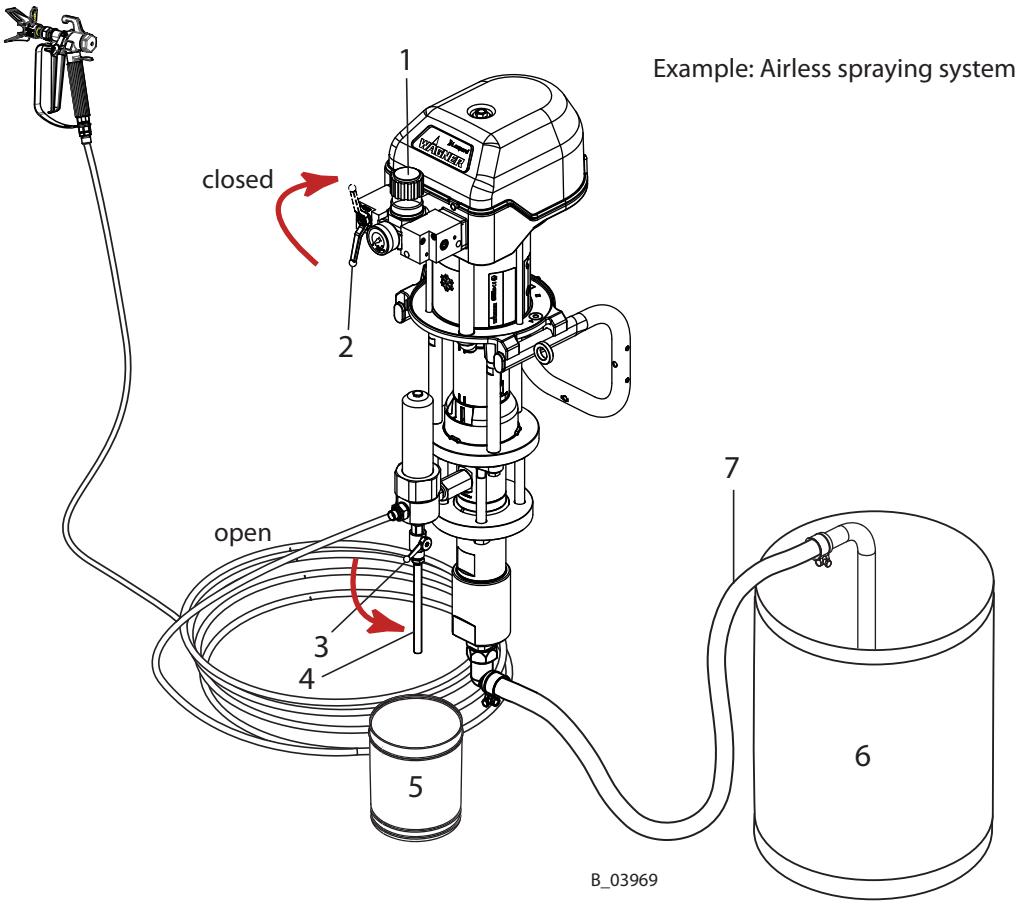
→ Ensure that the separating atgent container is filled with sufficient separating agent. Fill level 1 cm; 0.4 inch under the pot edge.

Place the supplied separating agent into the separating agent cup.
Filling level: 1 cm; 0.4 inch under the cup edge.
Separating agent: Order No. 9992504



Notice
Maximum permissible inclination of pump for moving, transportation etc. after filling with separating agent is ± 30°.
The pump must be vertical during operation.

6.5.3 BASIC FLUSHING



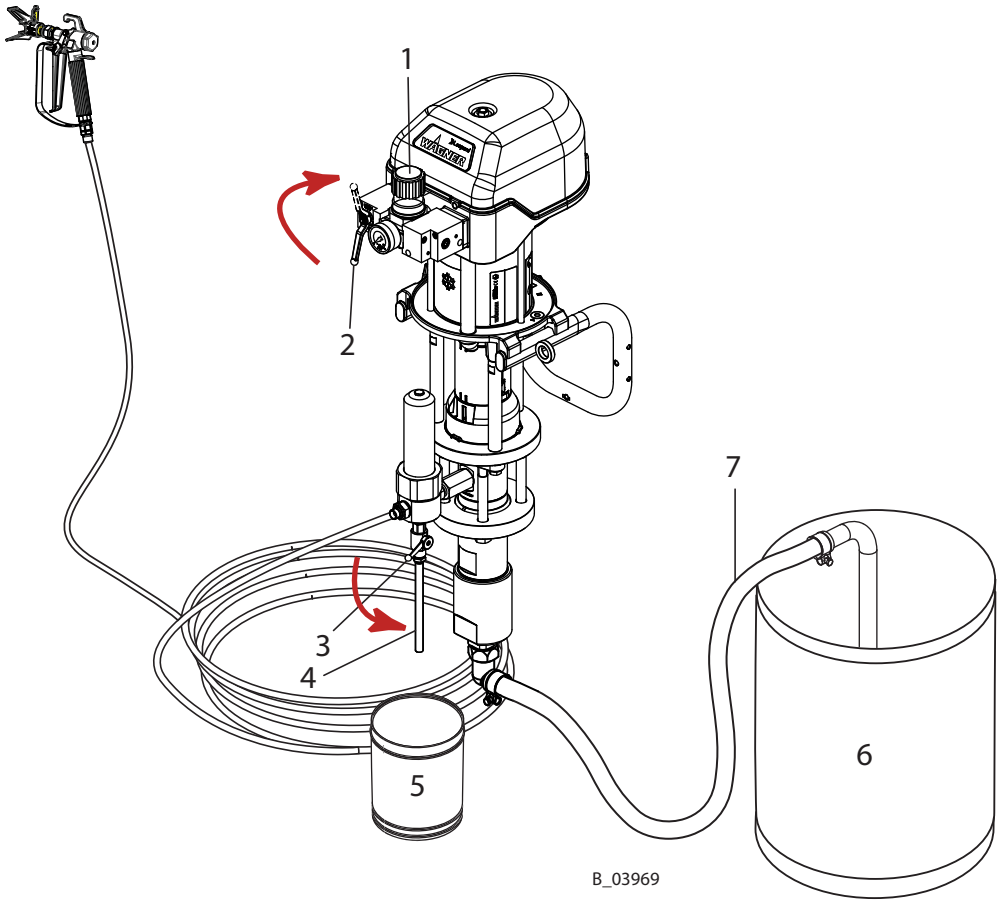
Example: Airless spraying system

1. Place empty container (5) under return tube (4).
2. Place suction hose (7) in the container with flushing agent (6).
3. Adjust the pressure regulator (1) to approx. 0.05 MPa; 0.5 bar; 7.25 psi.
4. Open return valve (3).
5. Slowly open the ball valve (2).
6. Adjust the air pressure on the pressure regulator (1) so that the pump runs smoothly.
7. Rinse the system until clean flushing agent flows into the container (5).
8. Close ball valve (2).
9. Close return valve (3).
10. Point the gun, without nozzle, into container (5) and open it.
11. Slowly open the ball valve (2).
12. Rinse until clean flushing agent flows from the gun.
13. Close ball valve (2).
14. When there is no pressure remaining in the system, close the gun.
15. Secure the gun.
16. Dispose of the contents of the container (5) according to the local regulations.

7 OPERATION

7.1 FILLING WITH WORKING MATERIAL

1. Place empty container (5) under return tube (4).
2. Place suction hose (7) in the container with working material (6).
   Note: If the pump is equipped with a rigid suction system, it should only be dipped in into the working material up to the middle of the inlet housing at the maximum!
3. Adjust the pressure regulator (1) to approx. 0.05 MPa; 0.5 bar; 7.25 psi.
4. Open return valve (3).
5. Slowly open the ball valve (2).
6. Adjust the air pressure on the pressure regulator (1) so that the pump runs smoothly.
7. Close ball valve (2) as soon as pure working material starts coming from the return tube (4).
8. Close return valve (3).
9. Point the gun, without nozzle, into container (5) and open it.
10. Slowly open the ball valve (2).
11. Close ball valve (2) as soon as pure working material starts coming from the gun.
12. When there is no pressure remaining in the system, close the gun.
13. Secure the gun.
14. Dispose of the contents of the container (5) according to the local regulations.



7.2 WORK

7.2.1 SPRAYING

1. Secure gun and place nozzle in the gun in accordance with the gun manual.
2. Slowly open the ball valve (2).
3. Set required working pressure on the pressure regulator (1).
4. Optimize the spraying results as laid down in the gun instructions.
5. Start work process.

7.2.2 PRESSURE RELIEF / WORK INTERRUPTION

1. Close gun.
2. Close ball valve (2).
3. Release the system by opening the gun.
4. Close and secure gun.
5. Open and close the return valve (3) to completely depressurize the system.

If the system has been used with two component materials:

NOTICE

Hardened material in the spraying system when 2-component material is processed!
Destruction of pump and injection system.

→ Follow the manufacturer's processing rules, particularly regarding the pot life.
→ Flush thoroughly before the end of the pot life.
→ The pot life is decreased by warmth.

7.2.3 DECOMMISSIONING AND CLEANING

Notice
The device should be cleaned for maintenance purposes. Ensure that no remaining material dries and sticks.

Procedure:
1. Work interruptions -> carry out the steps in Chapter 7.2.2.
2. Carry out the basic flushing -> Chapter 6.5.3.
3. Maintain the gun according to the operating manual.
4. Clean and check the suction system and the suction filter.
5. When using a high pressure filter: clean and check filter insert and filter housing.
6. Clean the outside of the system.

⚠ WARNING

Brittle filter pressure regulator!
The container on the filter pressure regulator becomes brittle through contact with solvents and can burst.
Flying parts can cause injury.

→ Do not clean the container on the filter pressure regulator with solvents.

7. Put the whole system back together.
8. Check the level of the separating agent -> Chapter 6.5.2.
9. Fill the system with flushing agent as laid down in Chapter 7.1 "Filling with Working Material".

⚠ WARNING

Gas mixtures can explode if there is an incompletely filled pump!
Danger to life from flying parts.

→ Ensure that the pump and suction system are always completely filled with flushing agent or working medium.
→ Do not spray the device empty after cleaning.

7.3 LONG-TERM STORAGE

When storing the device for longer periods of time, it is necessary to thoroughly clean it and protect it from corrosion. Replace the water or separating agent in the material pump with a suitable preservative, fill separating agent cup with separating agent.

Procedure:
1 Carry out points 1 through 9 in Chapter 7.2.3 "Decommissioning and Cleaning".
2 Flushing with preserving fluid according to Chapter 6.5.3.

8 TROUBLE SHOOTING AND RECTIFICATION

Problem	Cause	Remedy
The pump does not work	Air motor does not work or stops.	Open and close ball valve on the pressure regulator unit or briefly disconnect compressed air supply.
	No pressure indication on the pressure gauge (pressure regulator defective).	Disconnect compressed air supply shortly or repair or change pressure regulator.
	Spray nozzle is clogged.	Clean the nozzle according to the instructions.
	Insufficient compressed air supply.	Check compressed air supply.
	Filter insert in spray gun or high pressure filter is clogged.	Clean the parts and use a suitable working material.
	Fluid section or high pressure hose are blocked (e.g., two-component material hardened).	Dismount and clean fluid section, replace high pressure hose.
	Grease in spool and sleeve assembly.	Degrease spool and sleeve assembly.
	Pump stops at the stroke end.	Check detent element (see service manual).
Poor spray pattern	See the gun instructions.	
Irregular operation of material pump: spray jet collapses (pulsation)	Viscosity is too high.	Thin spraying material.
	Spraying pressure is too low.	Increase incoming air pressure. Use a smaller nozzle.
	Valves are clogged.	Clean material pump, if necessary leave it to soak in cleaning agent.
	Foreign body in suction valve.	Dismount suction valve housing, clean and check valve seat.
	Diameter of compressed air line too small.	Assemble a larger incoming line -> Technical Data, Chapter 5.3.3.
	Valves, packings or pistons are worn out.	Replace the parts.
	Control air filter or work air filter is clogged.	Check filter and clean it if necessary.
The pump runs evenly, does not however, suck up material	The suction system's union nut is loose; the pump is taking in air.	Tighten.
	Suction filter is clogged.	Clean filter.
	Ball in suction or piston valve is stuck.	Clean with cleaning agent (if necessary vent device).
Pump runs when the gun is closed	Packings, valves or pistons are worn out.	Replace the parts.
The air motor is iced up	There is a lot of condensation water in the air supply.	Install a water separator.

If none of the causes of malfunction mentioned are present, the defect can be remedied by a WAGNER Service Center.

9 MAINTENANCE

⚠ WARNING

Incorrect maintenance/repair!
Danger to life and equipment damage.

→ Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
→ Only repair and replace parts that are listed in the "Spare Parts" chapter and that are assigned to the device.
→ Before all work on the device and in the event of work interruptions:
- Disconnect the control unit from the mains.
- Relieve the pressure from the spray gun and device.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions at all times when carrying out work.

1. Check the level of separating agent in the separating agent cup every day, and top up if necessary.
2. Check and clean the high pressure filter every day or as required.
3. Every shut down should be carried out as laid down in Chapter 7.2.3!
4. Check hoses, pipes and couplings every day and replace if necessary.

→ In accordance with the guideline for liquid emitters (ZH 1/406 and BGR 500 Part 2 Chapter 2.36):
- The liquid emitters should be checked by an expert (e.g. Wagner service technician) for their safe working conditions as required and at least every 12 months.
- For shut down devices, the examination can be suspended until the next start-up.

The service instructions are available in German and English.
Order number see Chapter 1.

9.1 HIGH-PRESSURE HOSES

The service life of the fluid hoses is, even with appropriate handling, reduced due to environmental influences.

- → Check hoses, pipes and couplings every day and replace if necessary.
- → As a precaution fluid hoses should be replaced after a period specified by the plant operator.

DANGER

Bursting hose, bursting threaded joints!
Danger to life from injection of material.

- → Ensure that the hose material is chemically resistant to the sprayed materials.
- → Ensure that the spray gun, threaded joints and material hose between the device and the spray gun are suitable for the pressure generated in the device.
- → Ensure that the following information can be seen on the high pressure hose:
  - Manufacturer
  - Permissible operating pressure
  - Date of manufacture

9.2 DECOMMISIONING

When the equipment must be scrapped, please differentiate the disposal of the waste materials.
The following materials have been used:

- → Steel
- → Aluminum
- → Elastomerics
- → Plastics
- → Carbide

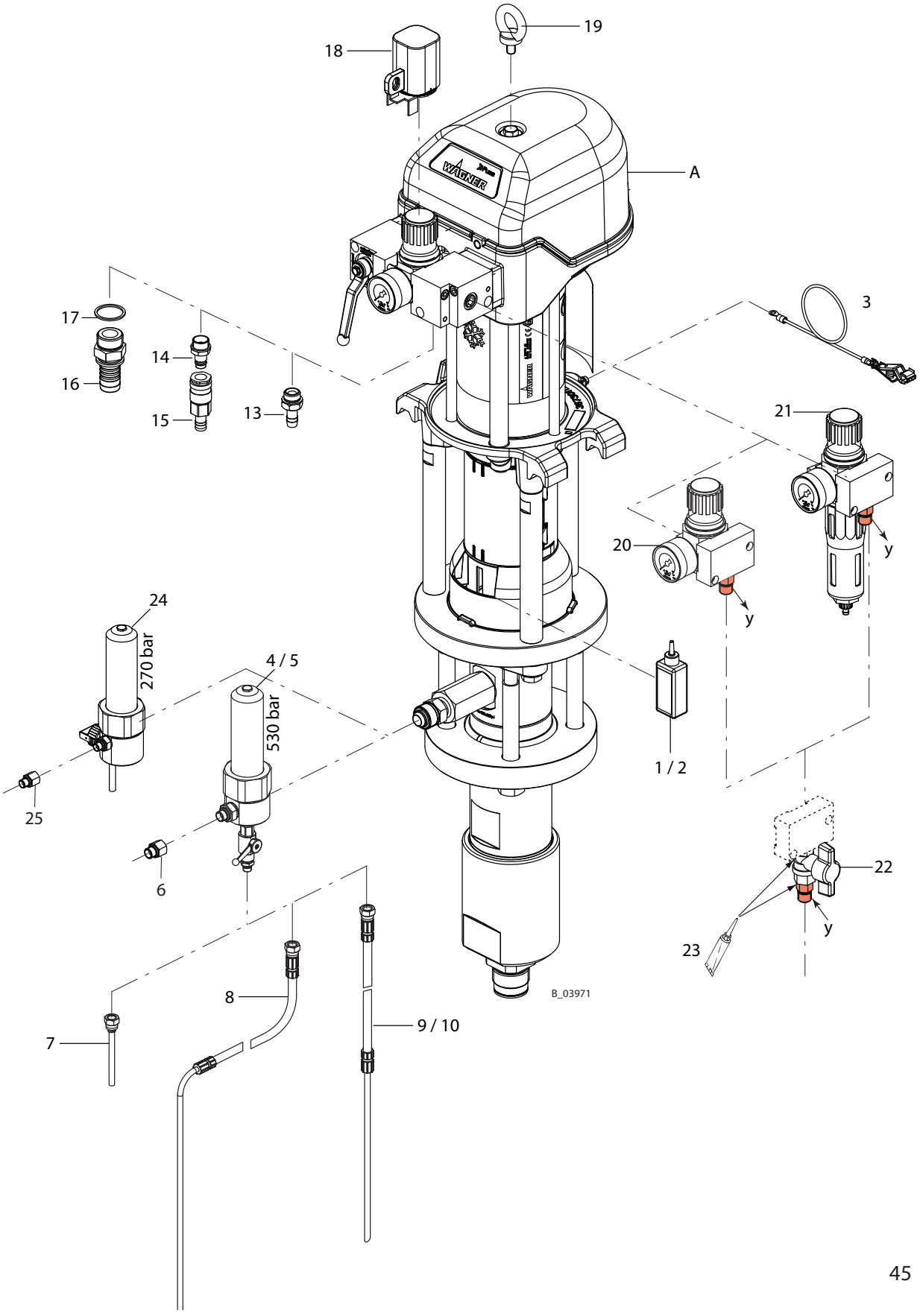
The consumable materials (paints, adhesives, sealers, solvents) must be disposed of according to the valid specific standards.

10 ACCESSORIES

10.1 MATERIAL OUTLET ACCESSORIES

List accessories			PUMA 8-300	PUMA 3-600	LEOPARD 18-300	LEOPARD 8-600	JAGUAR 38-300
Pos	**K**	**Designation**	**Order No.**	**Order No.**	**Order No.**	**Order No.**	**Order No.**
A		Piston pump PE/TG	2329527	2329531	2329497	2329533	2329509
A		Piston pump PE/T	2329529	-	2329499	-	2329507
1		Separating agent 250 ml; cc	9992504				
2		Separating agent 10 L; 2.6 gal.	356940				
3		Ground cable 3 m; 9.8 ft	236219				
4		HP filter DN12-PN530-SSt	2329025				
5		HP filter DN12 PN530-SSt with carbon steel ball valve	2335334				
6		Adapter G3/8"-NPS 3/8"	2332620				
7	◆	Return pipe DN6-G1/4"-100mm-PE	2331752				
8	◆	Return hose DN6-PN310-G1/4"-PA	2329046				
9	◆	Circulation hose DN6-PN310-G1/4"-1.8m-PA	2331017				
10	◆	Circulation hose DN6-PN310-G1/4"-2.8m-PA	2331014				
13		Hose sleeve DN13	9985619				--
14		Plug-in nipple	9998813				--
15		Quick release coupling with hose connector DN 13	9998812				--
16		Outside thread grommet 1"-NW25	--				9985671
17		Sealing ring 1"	--				9974135
18		Regulator lock	2334956		2334957		2334958
19		Ring screw	9907133				
20		Air coat regulator	--		2328611	--	2328611
21		AirCoat filter regulator, complete	--		2333478	--	2333478
22		Ball valve DN7-PN10-G1/4-R1/4-CB	--		2335815	--	2335815
23		Loctite, 542 50 ml; 50 cc	--		9992831	--	9992831
24		HP filter DN10-PN270-SSt	--		2329024	--	2329024
25		Adapter G1/4"-NPS1/4"	--		2332619	--	2332619

◆ = Wearing part


19
18
A
17
16
14
15
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3
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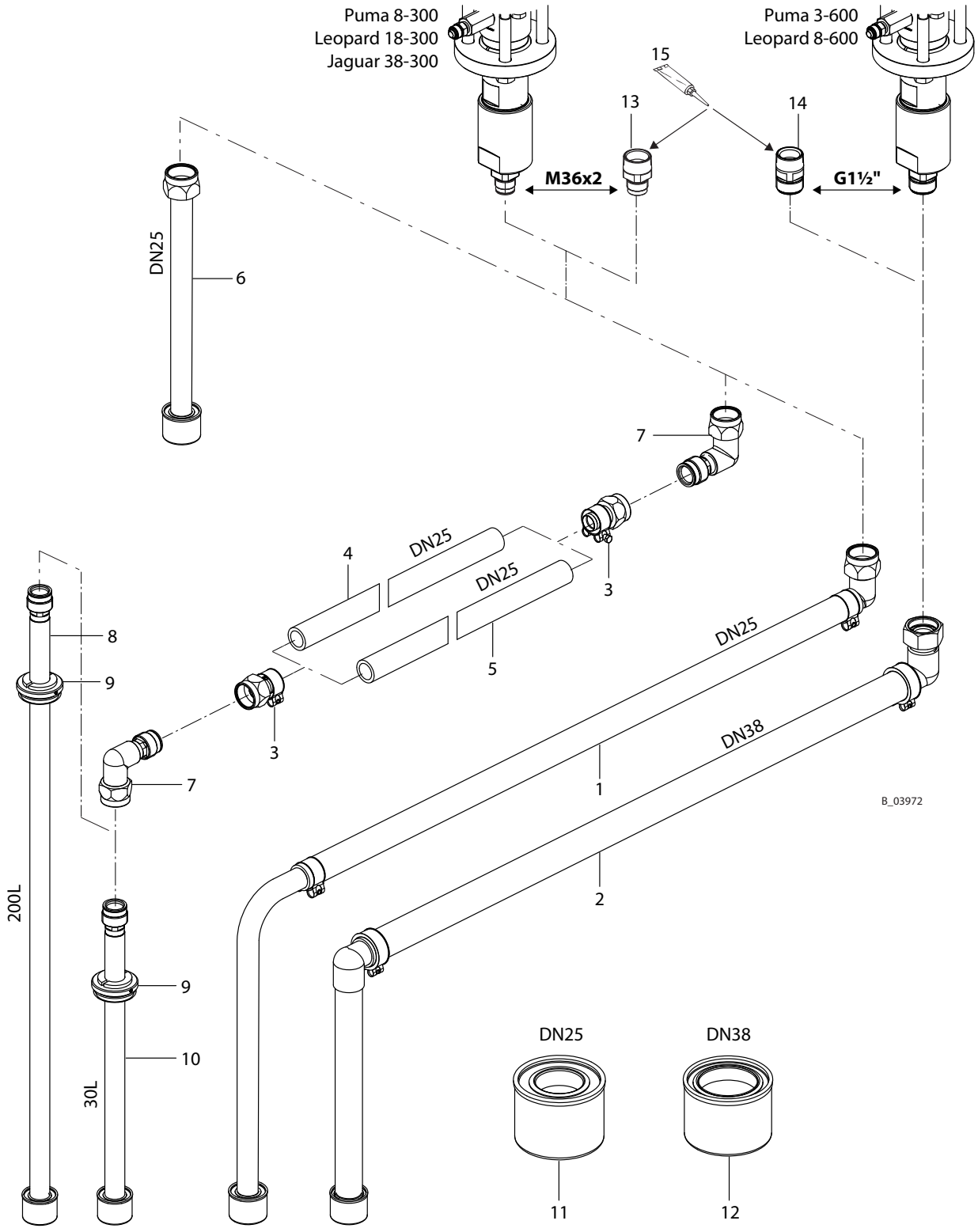
20
y
y
24
270 bar
4 / 5
530 bar
25
6
1 / 2
22
y
23
8
9 / 10
7
B_03971

10.2 MATERIAL INLET ACCESSORIES

List accessories			PUMA 8-300	PUMA 3-600	LEOPARD 18-300	LEOPARD 8-600	JAGUAR 38-300
Pos	**K**	**Designation**	**Order No.**	**Order No.**	**Order No.**	**Order No.**	**Order No.**
A		Piston pump PE/TG	2329527	2329531	2329497	2329533	2329509
A		Piston pump PE/T	2329529	-	2329499	-	2329507
1	◆	Suction hose DN25-SSt, complete	2324116				
2	◆	Suction hose DN38-G1/2"-CS, complete	2329592				
3		LP hose fitting DN25-M36-SSt	2325408				
4	◆	LP hose DN25-PN10-EPDM (per meter)	2323474				
5	◆	LP hose DN25-PN10-PA (per meter)	2323595				
6		Suction pipe DN25-SSt, complete	2323239				
7		Suction elbow DN25-SSt	2324247				
8		Suction pipe DN25-200L-SSt, complete	2324238				
9		Bung adapter DN25-G2"	2315163				
10		Suction pipe DN25-30L-SSt, complete	2324241				
11	◆	Suction filter DN25-18mesh-SSt	2323325				
12	◆	Suction filter DN38-12.8mesh-SSt	2329596				
13		Fitting DF-MM-R1½"-M36-PN15-SSt	2329563				
14		Fitting DF-MM-R1½"-G1½"-PN15-SSt	2329073				
15		Anti-sieze paste	9992609				

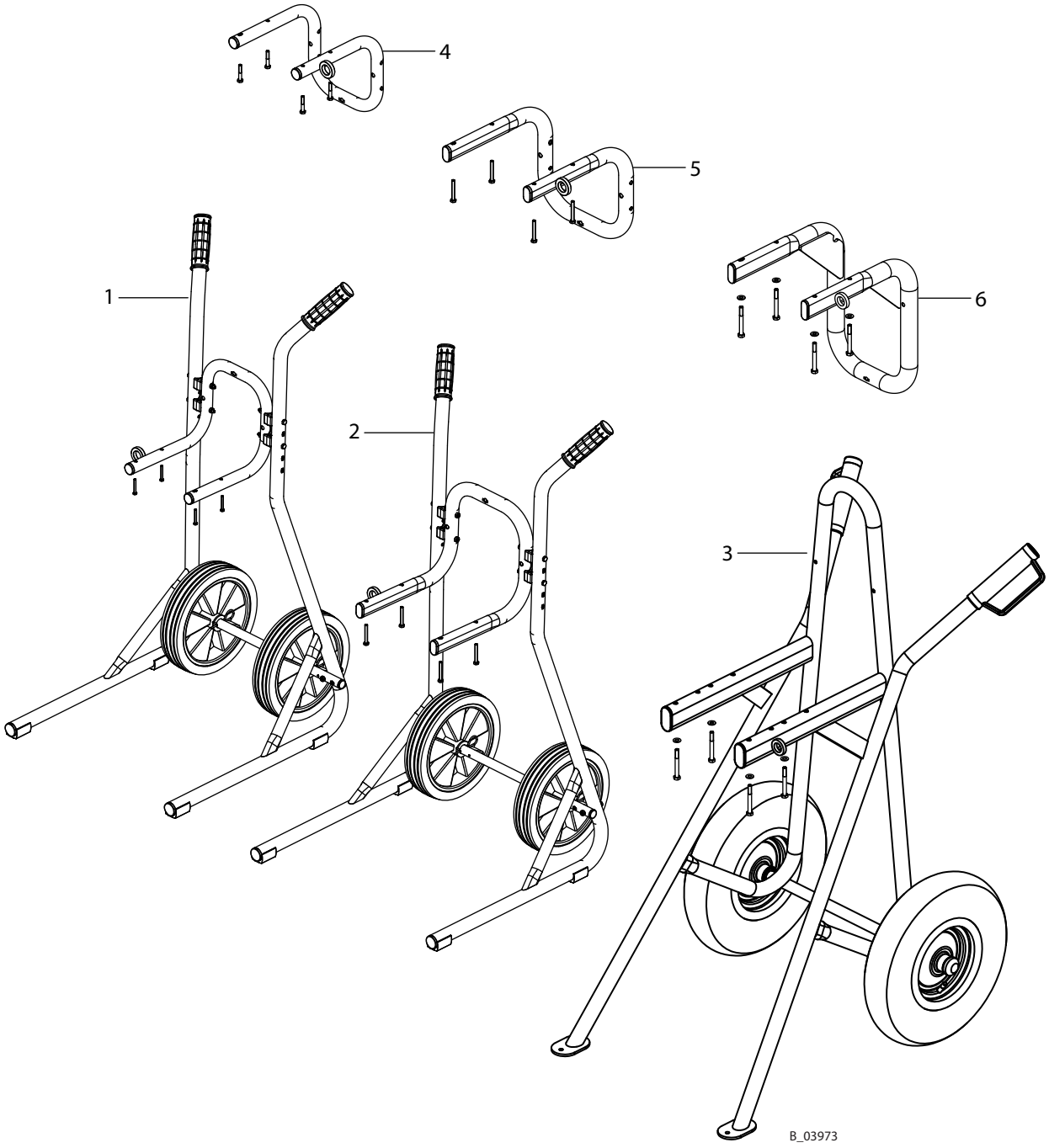
◆ = Wearing part


Puma 8-300
Leopard 18-300
Jaguar 38-300
Puma 3-600
Leopard 8-600
15
13
14
M36x2
G1½"
DN25
6
7
4
DN25
DN25
3
5
8
9
DN25
DN38
3
7
1
B_03972
200L
2
9
10
30L
DN25
DN38
11
12

10.3 TROLLEY, RACK AND WALL MOUNT ACCESSORIES

List accessories		PUMA 8-300	PUMA 3-600	LEOPARD 18-300	LEOPARD 8-600	JAGUAR 38-300
Pos K	**Designation**	**Order No.**	**Order No.**	**Order No.**	**Order No.**	**Order No.**
A	Piston pump PE/TG	2329527	2329531	2329497	2329533	2329509
A	Piston pump PE/T	2329529	-	2329499	-	2329507
1	Trolley 4", complete	2325901		--		
2	Trolley 6", complete	--		2325916		--
3	Trolley Heavy Duty, complete	--		369024		
4	Wall mount 4", complete	2332143		--		
5	Wall mount 6", complete	--		2332145		--
6	Wall mount 9", complete	--				369020

◆ = Wearing part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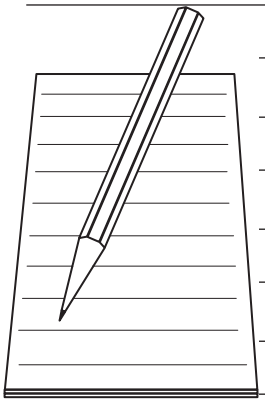


11 SPARE PARTS

11.1 HOW CAN SPARE PARTS BE ORDERED?

Always supply the following information to ensure delivery of the right spare part:

Order number, designation and quantity
The quantity need not be the same as the number given in the quantity column "**Stk**" on the list. This number merely indicates how many of the respective parts are used in each module.

The following information is also required to ensure smooth processing of your order:
- Billing address
- Delivery address
- Name of the person to be contacted in the event of any queries
- Type of delivery (normal mail, express delivery, air freight, courier etc.)

Identification in spare parts lists

Explanation of column "**K**" (labeling) in the following spare parts lists:

◆ Wearing parts
Note: No liability is assumed for wearing parts.

● Not part of standard equipment, available, however, as additional extra.

⚠ WARNING

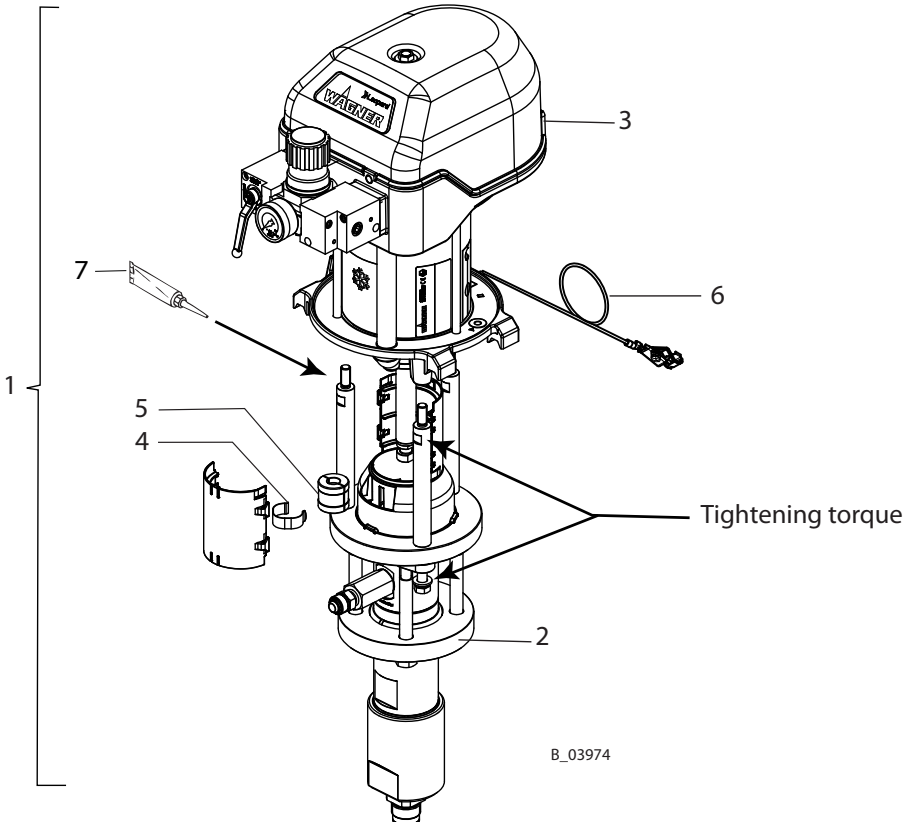
Incorrect maintenance/repair!
Risk of injury and equipment damage.

→ Have repairs and part replacements be carried out only by specially trained staff or a WAGNER service center.
→ Before all work on the device and in the event of work interruptions:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and device.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions at all times when carrying out work.

The service manual is available separately: see Chapter 1.3.

11.2 OVERVIEW OF COMPONENTS

		PUMA		
		8-300 PE/TG	8-300 PE/T	3-600 PE/TG
Pos	**Designation**	**Order No.**	**Order No.**	**Order No.**
1	Piston pump	2329527	2329529	2329531
2	Fluid section	2329660	2329662	2329679
3	Air motor	2329619		
4	Spring	367530		
5	Coupling	367579		
6	Grounding cable	236219		
7	Molykote DX grease	9992616		
	Tightening torque air motor / fluid section	50 Nm; 37 lbft		

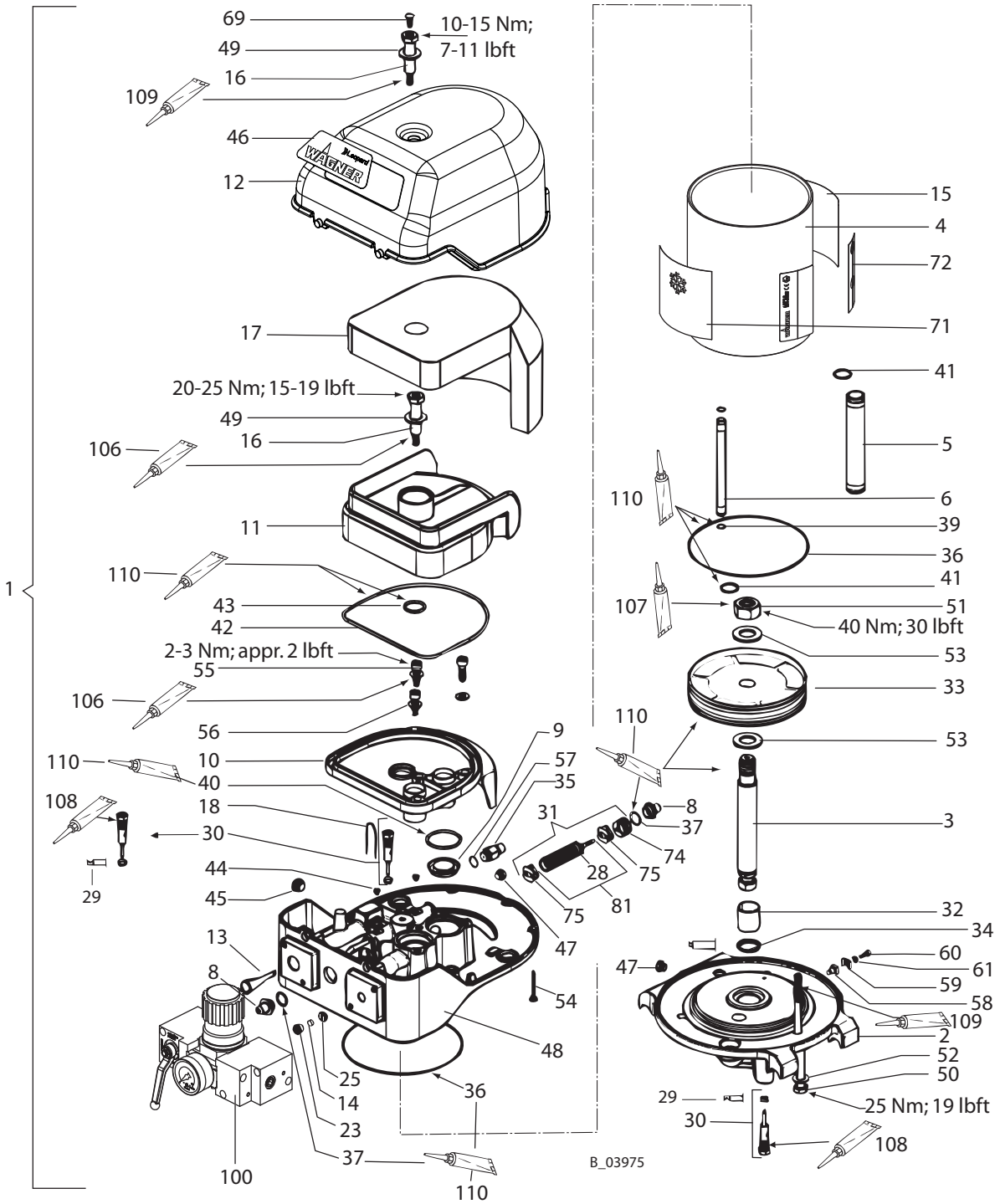


		LEOPARD		
		18-300 PE/TG	18-300 PE/T	8-600 PE/TG
Pos	**Designation**	**Order No.**	**Order No.**	**Order No.**
1	Piston pump	2329497	2329499	2329533
2	Fluid section	2329660	2329662	2329679
3	Air motor	2329623		
4	Spring	368530		
5	Coupling	368529		
6	Grounding cable, complete	236219		
7	Molykote DX grease	9992616		
	Tightening torque, air motor / fluid section	50 Nm; 37 lbft		

		JAGUAR	
		38-300 PE/TG	38-300 PE/T
Pos	**Designation**	**Order No.**	**Order No.**
1	Piston pump	2329509	2329507
2	Fluid section	2329660	2329662
3	Air motor	2329625	
4	Spring	368530	
5	Coupling	368529	
6	Grounding cable, complete	236219	
7	Molykote DX grease	9992616	
	Tightening torque, air motor / fluid section	50 Nm; 37 lbft	

11.3 AIR MOTORS

11.3.1 PUMA AND LEOPARD AIR MOTORS



Pressure regulator (pos. 100)
For details, see Chapter 11.3.2 / 11.3.3.

Do not dismount the piston (pos. 81).

⚠ WARNING

Incorrect maintenance/repair!
Risk of injury and equipment damage.

→ Have repairs and part replacements be carried out only by specially trained staff or a WAGNER service center.
→ Before all work on the device and in the event of work interruptions:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and device.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions at all times when carrying out work.

Spare parts list air motor

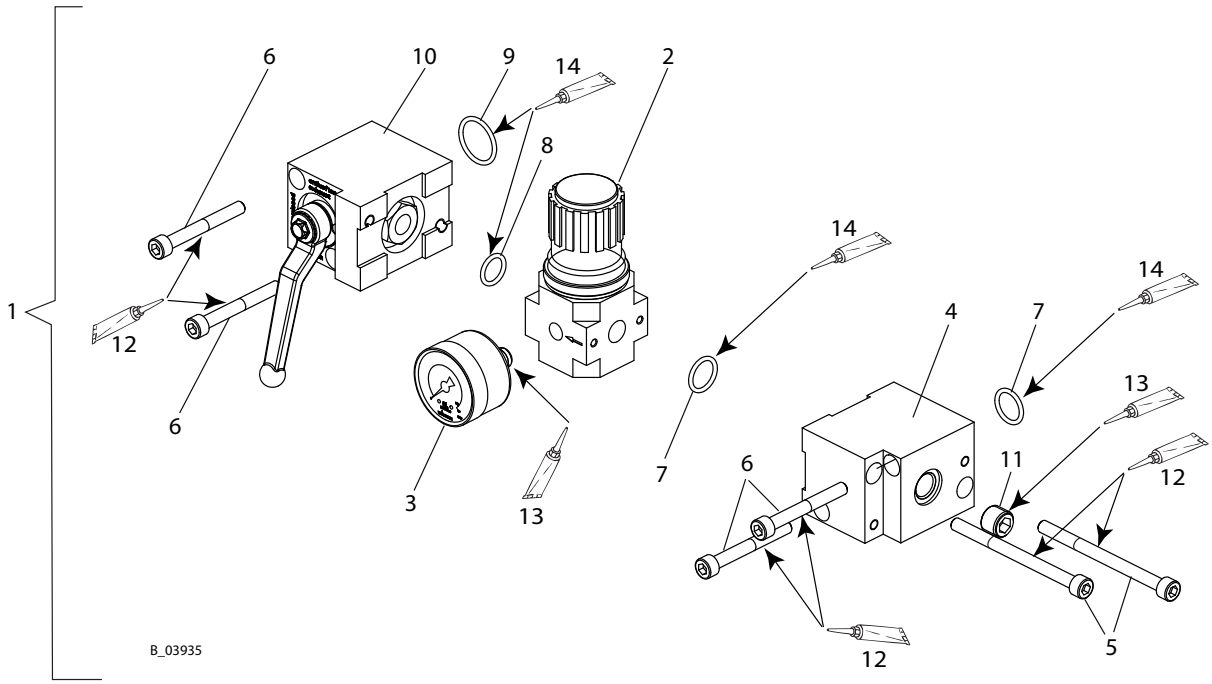
			PUMA Ø 100 mm / stroke 150 mm Ø 4 / stroke 6 inches		LEOPARD Ø 150 mm / stroke 150 mm Ø 6 / stroke 6 inches	
Pos	**K**	**Designation**	**Stk**	**Order No.**	**Stk**	**Order No.**
1		Air motor	1	2329619	1	2329623
2		Flange	1	367316	1	368316
3		Piston rod	1	367402	1	368402
4		Cylinder pipe	1	367403	1	368403
5		Compressed air pipe	1	367404	1	368404
6		Control air pipe	1	367405	1	367405
8		Sealing plug	2	367307	2	367307
9	◆ ★	Outlet seal	2	L414.06C	2	L423.06
10		Connecting part	1	367309	1	368309
11		Silencer	1	367310	1	368310
12		Hood	1	367311	1	368311
13	◆ ★	Filter, compressed air	1	367313	1	367313
14	◆ ★	Control air filter	1	367314	1	367314
15		Fluid warning label	1	2332082	1	2332082
16		Shoulder screw	2	367318	2	368324
17	◆	Sound deadening pad	1	367319	1	368319
18		Cotter pin	2	367320	2	368320
20	◆	Pressure regulator	1	9998676	1	9999506
20	◆	Pressure regulator XR-15 (special accessory)		–	1	9999554
23		Filter holder	1	367324	1	367324
25		Throttle		–	1	367325
28	◆	O-ring	6	9971123	6	9974142
29	◆	Rod seal	2	9974217	2	9974217
30	◆	Pilot valve	2	369290	2	369290
31	◆	Spool and sleeve assembly	1	9943080	1	9943081
32	◆	Permaglide bushing	1	9962018	1	9962019

◆ = Wearing part
★ = Included in service set

Spare parts list air motor			PUMA Ø 100 mm / stroke 150 mm Ø 4 / stroke 6 inches		LEOPARD Ø 150 mm / stroke 150 mm Ø 6 / stroke 6 inches	
Pos	**K**	**Designation**	**Stk**	**Order No.**	**Stk**	**Order No.**
33	◆	Piston	1	9998661	1	9998662
34	◆ ★	Seal wiper ring	1	9974090	1	9974091
35		Safety valve	1	368288	1	368287
36	◆ ★	O-ring	2	9974084	2	9974087
37	◆ ★	O-ring	2	9974085	2	9974085
39	◆ ★	O-ring	2	9974089	2	9974089
40	◆ ★	O-ring	2	9974095	2	9974096
41	◆ ★	O-ring	2	9971448	2	9971137
42	◆ ★	O-ring	1	9974097	1	9974100
43	◆ ★	O-ring	1	9974098	1	9974101
44		Threaded plug	2	9998674	2	9998674
45		Threaded plug	2	9998274	2	9998274
46		WAGNER label	1	2330370	1	2330372
47		Threaded plug	2	9998675	2	9998675
48		Control housing	1	367315	1	368315
49		Washer	2	9920106	2	9925026
50		Hexagon bolt	3	9907121	3	9907121
51		Hexagon nut	1	9910101	1	9910605
52		Washer	3	9920106	3	9920106
53		Washer	1	9920107	2	9920110
54		SFS screw	2	9907126	3	9907125
55		Socket screw	3	9900325	3	9900313
56		Washer	3	9920103	3	9920102
57	◆ ★	Sealing ring	1	9970149	1	9970149
58		Base	1	9952668	1	9952668
59		Clamping bracket	1	9952667	1	9952667
60		Socket screw	1	9900701	1	9900701
61		Spring ring	1	9921505	1	9921505
69		Drive fastener	1	9998718	1	9998718
71		IceBreaker label	1	2330382	1	2330382
72		Warning label	1	2332077	1	2332077
74	◆	Detent element complete ISO 1/2		368038	1	368038
75	◆	Damper ISO 1/2	2	368313	2	368313
81	◆	Spool & sleeve assembly ISO1 or ISO2	1	9943097	1	9943098
100		Pressure regulator unit, complete (incl. pos. 62)	1	2328606	1	2328606
106		Loctite 222 50 ml; 50 cc	1	9992590	1	9992590
107		Loctite 243 50 ml; 50 cc	1	9992511	1	9992511
108		Loctite 542 50 ml; 50 cc	1	9992831	1	9992831
109		Molykote DX grease	1	9992616	1	9992616
110		Grease Beacon	1	9998808	1	9998808
		Service set	1	367995	1	368995

◆ = Wearing part
★ = Included in service set

11.3.2 PUMA AIR MOTOR REGULATOR

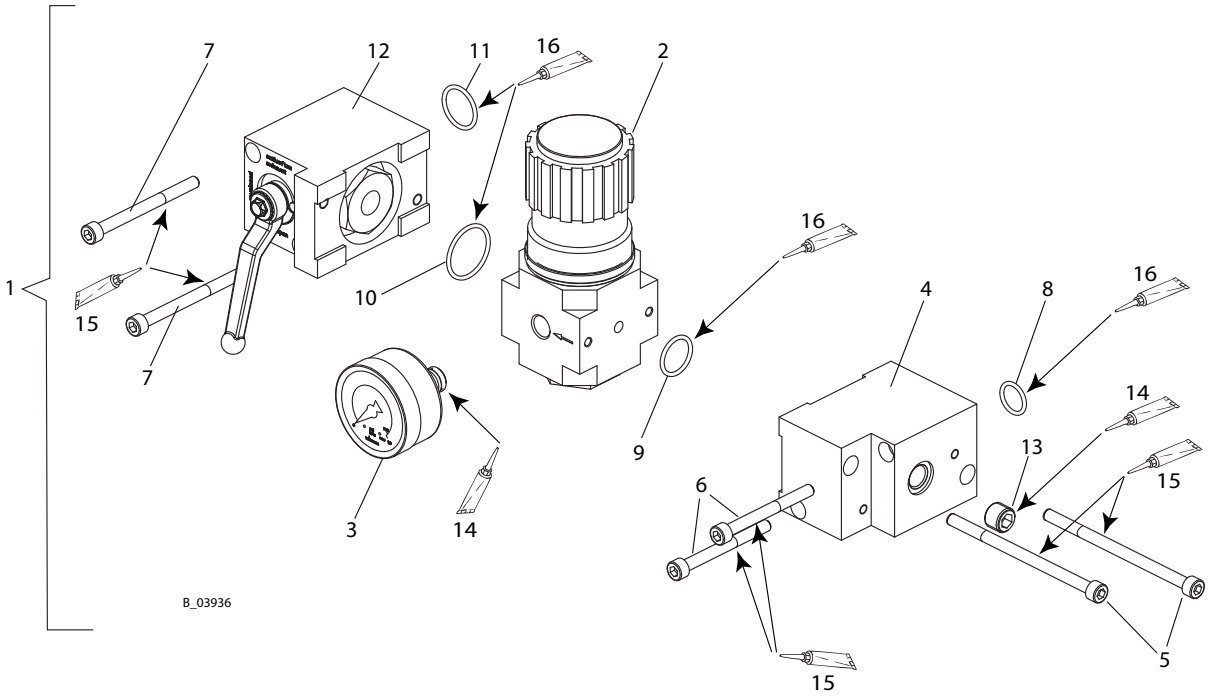


Air motor regulator spare parts list Puma			PUMA Ø 100 mm / stroke 150 mm Ø 4 inches / stroke 6 inches	
Pos	**K**	**Designation**	**Stk**	**Order No.**
1		Pressure regulator unit, 4", complete	1	2328606
2	◆	Pressure regulator valve, 4"	1	2309972
3	◆	Pressure gauge 0-10 bar (d40)	1	9998677
4		Distribution piece, 4"	1	2309744
5		Hexagon socket head screw	2	9907039
6		Hexagon socket head screw	4	9900316
7	◆	O-ring	2	9974166
8		O-ring	1	9971313
9	◆	O-ring	1	9971137
10	◆	Edge ball valve, 4"	1	2310635
11		Screw plug	1	9904407
12		Molykote DX grease	1	9992616
13		Loctite, 542 50 ml; 50 cc	1	9992831
14		Grease beacon	1	9998808

◆ = Wearing part

★ = Included in service set

11.3.3 LEOPARD AIR MOTOR REGULATOR



Air motor regulator spare parts list Leopard			LEOPARD Ø 150 mm / stroke 150 mm Ø 6 inches / stroke 6 inches	
Pos	**K**	**Designation**	**Stk**	**Order No.**
1		Pressure regulator unit, 6", complete	1	2328607
2	◆	Pressure regulator valve 6"	1	2309973
3	◆	Pressure gauge 0-10 bar (d50)	1	9998725
4		Distribution piece, 6"	1	2309783
5		Hexagon socket head screw	2	3050699
6		Hexagon socket head screw	2	9907024
7		Hexagon socket head screw	2	9906020
8	◆	O-ring	1	9974166
9		O-ring	1	9971018
10		O-ring	1	3105540
11	◆	O-ring	1	9971137
12	◆	Edge ball valve, 6"	1	2310636
13		Screw plug	1	9904407
14		Loctite 542	1	9992831
15		Molykote DX grease	1	9992616
16		Grease beacon	1	9998808

◆ = Wearing part

★ = Included in service set

11.3.4 JAGUAR AIR MOTOR

⚠ WARNING

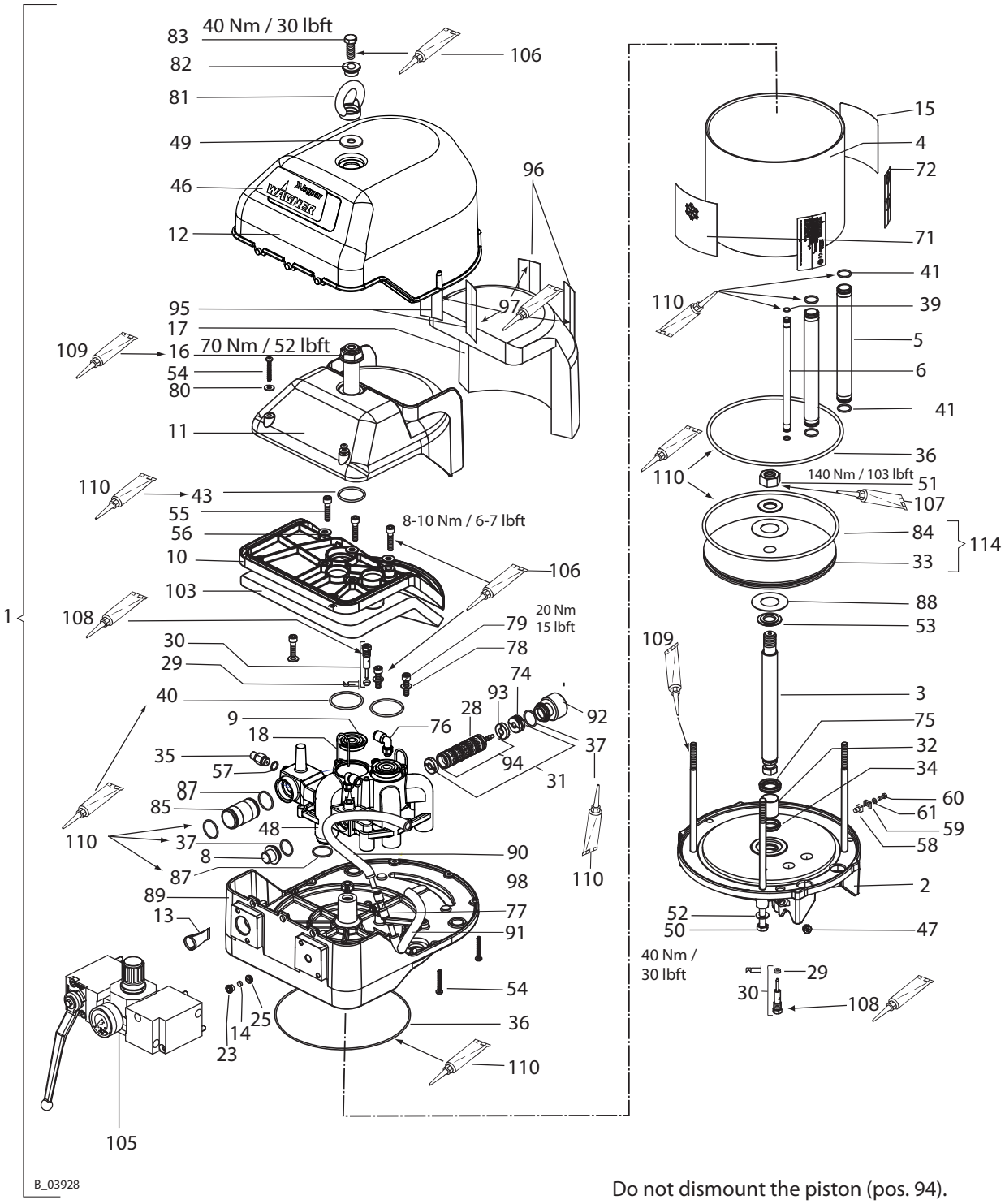
Incorrect maintenance/repair!
Risk of injury and equipment damage.

- → Have repairs and part replacements be carried out only by specially trained staff or a WAGNER service center.
- → Before all work on the device and in the event of work interruptions:
  - Switch off the energy/compressed air supply.
  - Relieve the pressure from the spray gun and device.
  - Secure the spray gun against actuation.
- → Observe the operating and service instructions at all times when carrying out work.

Jaguar air motor spare parts list				**JAGUAR** ø 220 mm / stroke 150 mm ø 8.7 inches / stroke 6 inches
Pos	**K**	**Stk**	**Designation**	**Order No.**
1			Air motor	2329625
2		1	Flange	369316
3	◆	1	Piston rod	368402
4		1	Cylinder pipe	369403
5		2	Compressed air pipe	368404
6		1	Control air pipe	367405
8		1	Sealing plug	369307
9	◆ ★	2	Outlet seal	369312
10		1	Connecting part	369309
11		1	Silencer	369310
12		1	Hood	369905
13	◆ ★	1	Filter, compressed air	369313
14	◆ ★	1	Control air filter	367314
15		1	Fluid warning label	2332082
16		1	Shoulder screw	369318
17	◆	1	Sound deadening pad	369906
18		2	Cotter pin	369320
23		1	Filter holder	367324
25		1	Throttle	367325
28	◆	6	O-ring	9974143
29	◆	2	Rod seal	9974217
30	◆	2	Pilot valve	369290

◆ = Wearing part

★ = Included in service set



Do not dismount the piston (pos. 94).

Pressure regulator (pos. 105)
Details see Chapter 11.3.5.

Jaguar air motor spare parts list				JAGUAR ø 220 mm / stroke 150 mm ø 8.7 inches / stroke 6 inches
Pos	**K**	**Stk**	**Designation**	**Order No.**
31	◆	1	Spool and sleeve assembly	369907
32	◆	1	Permaglide bushing	9962019
33		1	Piston 9	369385
34	◆ ★	1	Seal wiper ring	9974125
35		1	Safety valve	368286
36	◆ ★	2	O-ring	9974133
37	◆ ★	2	O-ring	9971056
39	◆ ★	2	O-ring	9974089
40	◆ ★	2	O-ring	9974132
41	◆ ★	4	O-ring	9971137
43	◆ ★	1	O-ring	9974165
46		1	WAGNER label	2330372
47		2	Threaded plug	9998675
48		1	Control housing	369315
49		1	Washer	9925034
50		4	Hexagon bolt	9907137
51		1	Hexagon nut	9910605
52		4	Washer	9920106
53		2	Washer	369303
54		7	SFS screw	9907125
55		3	Socket screw	9900314
56		3	Washer	9925029
57	◆ ★	1	Sealing ring	9970149
58		1	Base	9952668
59		1	Clamping bracket	9952667
60		1	Socket screw	9900701
61		1	Spring ring	9921505
71		1	IceBreaker label	2330382
72		1	Warning label	2332077
74	◆	1	Detent body	369027
75		1	Rod seal profile E5	9974124
76		2	Elbow screw-in connection	9992757
77		1	Screw connector T	9992758
78		4	Washer	9920102
79		4	Socket screw	9900313
80		2	Washer	9925031
81		1	Lifting eye nut	369325

◆ = Wearing part

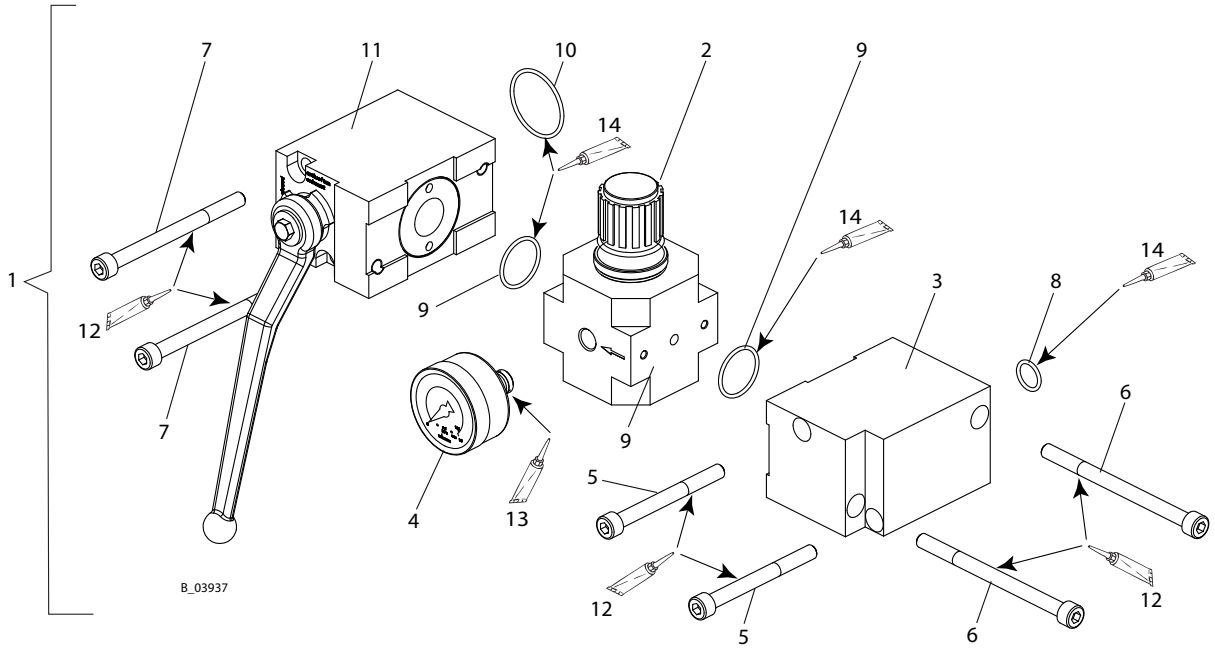
★ = Included in service set

Jaguar air motor spare parts list				JAGUAR ø 220 mm / stroke 150 mm ø 8.7 inches / stroke 6 inches
Pos	**K**	**Stk**	**Designation**	**Order No.**
82		1	Shoulder ring	369324
83		1	Hexagon bolt	9900150
84	◆ ★	1	O-ring	9974262
85		1	Air pipe	369306
87	◆	3	O-ring	9971004
88		2	Damping washer	369304
89		1	Control flange	369317
90		1	Air hose back	369026
91		1	Air hose front	369025
92		1	Lock space 9	369326
93	◆	2	Damper ISO 3	369329
94	◆	1	Spool & sleeve assembly ISO3	9943131
95	◆	1	Velcro fastener adhesive part	9999151
96	◆	1	Velcro fastener coating part	9999152
97		1	Adhesive	9992816
98	◆	1	Viton B O-ring	9971372
103	◆	1	Schalldämmmatte 9/12"	369330
105		1	Pressure regulator unit 9, complete	2328609
106		1	Loctite 222 50 ml; 50 cc	9992590
107		1	Loctite 243 50 ml; 50 cc	9992511
108		1	Loctite 542 50 ml; 50 cc	9992831
109		1	Anti-sieze paste	9992616
110		1	Grease beacon	9998808
114		1	Piston 9 with SOFT O-ring	369971
		1	Service set	369987

◆ = Wearing part

★ = Included in service set

11.3.5 JAGUAR AIR MOTOR REGULATOR



Air motor regulator spare parts list Jaguar				JAGUAR ø 220 mm / stroke 150 mm ø 8.7 inches / stroke 6 inches
Pos	**K**	**Stk**	**Designation**	**Order No.**
1		1	Pressure regulator unit, 9", complete	2328609
2	◆	1	Pressure regulator valve 9"	2309974
3		1	Distribution piece, 9"	2309963
4	◆	1	Pressure gauge 0-10 bar (d50)	9998725
5		2	Hexagon socket head screw	9900360
6		2	Hexagon socket head screw	9907087
7		2	Hexagon socket head screw	9900356
8	◆	1	O-ring	9974166
9		2	O-ring	3105540
10	◆	1	O-ring	9971405
11	◆	1	Edge ball valve, 9"	2310637
12		1	Molykote DX grease	9992616
13		1	Loctite, 542 50 ml; 50 cc	9992831
14		1	Grease beacon	9998808

◆ = Wearing part

★ = Included in service set

11.4 FLUID SECTIONS

11.4.1 FLUID SECTION 300 CM³

⚠ WARNING

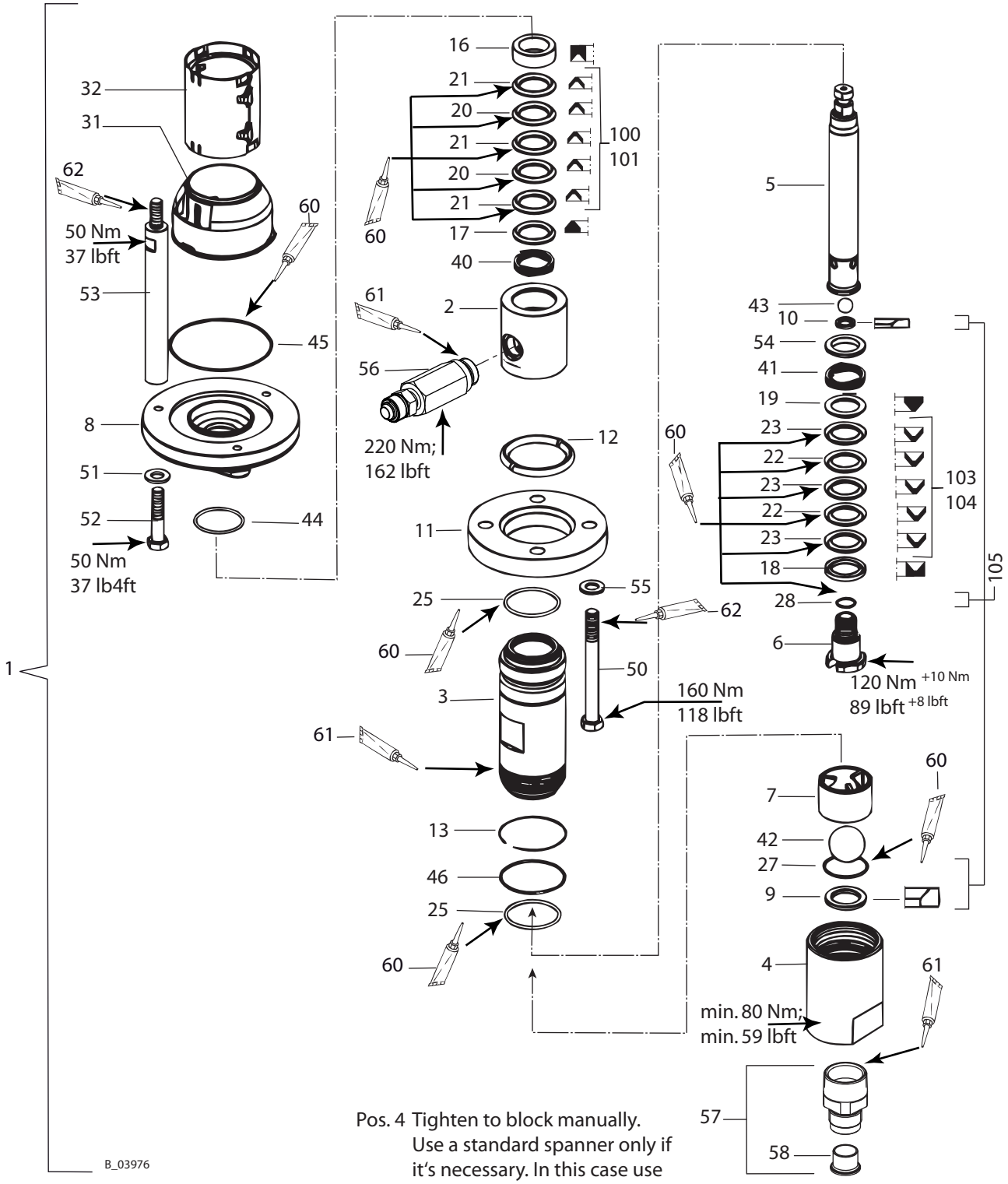
Incorrect maintenance/repair!
Risk of injury and equipment damage.

→ Have repairs and part replacements be carried out only by specially trained staff or a WAGNER service center.
→ Before all work on the device and in the event of work interruptions:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and device.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions at all times when carrying out work.

Fluid sections spare parts list

Pos	K	Stk	Designation	300 cm³ PE/TG Order No.	300 cm³ PE/T Order No.
1			Fluid section	2329660	2329662
2		1	Pipe	369502	
3		1	Cylinder	369503	
4		1	Inlet housing	369504	
5	◆	1	Piston	369505	
6		1	Valve screw	369506	
7	◆ ★	1	Ball guide, inlet	369507	
8		1	Connecting flange	369501	
9	◆	1	Valve seat inlet (carbide)	369509	
10	◆	1	Valve seat outlet (carbide)	369510	
11		1	Snap ring flange	369511	
12		2	Snap ring half	369512	
13		1	Securing ring	369513	
16		1	Support ring	369516	
17		1	Pressure ring	368519	
18		1	Support ring	369518	
19		1	Pressure ring	369519	
20	◆ ★	2	Sealing collar TG	368522	
20	◆ ★	2	Sealing collar T		368900
21	◆ ★	3	Sealing collar PE	368523	368523
22	◆ ★	2	Sealing collar TG	369522	
22	◆ ★	2	Sealing collar T		369900

◆ = Wearing part
★ = Included in service set
● = Not part of the standard equipment but available as a special accessory.



Pos. 4 Tighten to block manually.
Use a standard spanner only if it's necessary. In this case use a spanner to hold pos. 3

Fluid sections spare parts list				**300 cm³ PE/TG**	**300 cm³ PE/T**
Pos	**K**	**Stk**	**Designation**	**Order No.**	**Order No.**
23	◆ ★	3	Sealing collar PE	369523	369523
25	◆ ★	2	O-ring	369525	
27	◆ ★	1	O-ring	369527	
28	◆ ★	1	O-ring	369528	
31	◆	1	Separating agent cup	368531	
32	◆	2	Coupling cover	368532	
40	◆ ★	1	Spirawave, crest-to-crest	9998671	
41	◆ ★	1	Spirawave, crest-to-crest	9998671	
42	◆ ★	1	Ball (large)	9943086	
43	◆ ★	1	Ball (small)	9941505	
44	◆ ★	1	O-ring	9974117	
45	◆ ★	1	O-ring	9974116	
46	◆ ★	1	O-ring	9974118	
50		4	Hexagon bolt	9907149	
51		3	Washer	9920107	
52		3	Hexagon bolt	9900157	
53		3	Threaded bolt	368533	
54		1	Shoulder ring	369514	
55		4	Washer	9925011	
56		1	Rotary connection G3/4"	2329923	
57		1	Fitting DF-MM-R1½"-M36-PN15-SSt	2329563	
58		1	Sealing sleeve	2329898	
60			Mobilux EP 2 grease	9998808	
61		1	Anti-sieze paste, 100 g	9992609	
62			Molykote DX grease	9992616	
Packing, upper:					
100	◆	1	Packing PE/TG, complete	368991	
101	◆	1	Packing PE/T, complete		368992
Packing, lower:					
103	◆	1	Packing PE/TG, complete	369991	
104	◆	1	Packing PE/T, complete		369992
Valve seat, stainless steel:					
105	◆ ●		Valve seat set 300, in stainless steel version, consisting of: pos. 9, 10, 27, 28	2331586	
Service sets:					
			Service set PE/TG	369990	
			Service set PE/T		369964

◆ = Wearing part

★ = Included in service set

● = Not part of the standard equipment but available as a special accessory.

11.4.2 FLUID SECTION 600 CM³

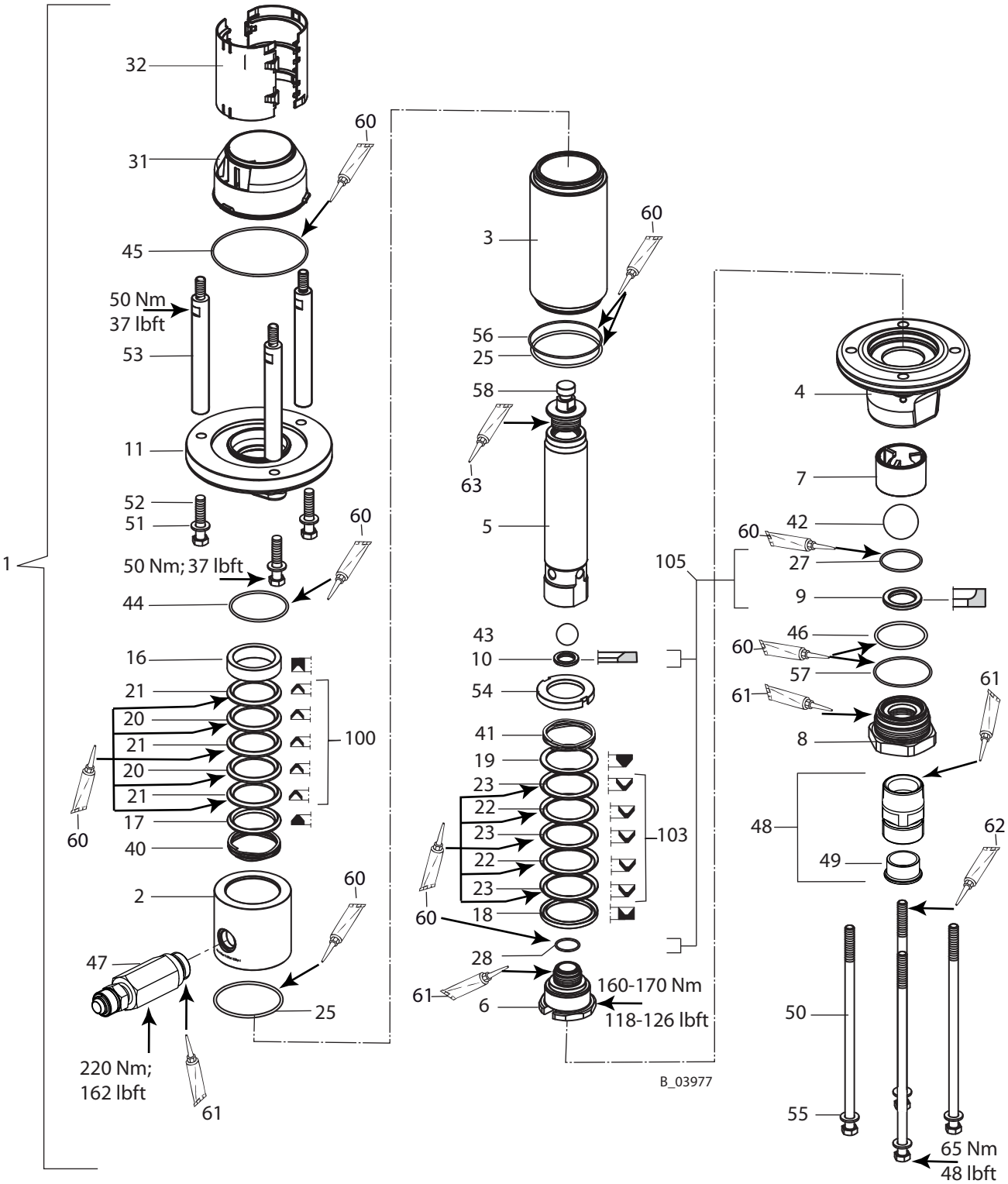
⚠ WARNING

Incorrect maintenance/repair!
Risk of injury and equipment damage.

→ Have repairs and part replacements be carried out only by specially trained staff or a WAGNER service center.
→ Before all work on the device and in the event of work interruptions:
- Switch off the energy/compressed air supply.
- Relieve the pressure from the spray gun and device.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions at all times when carrying out work.

Fluid sections spare parts list				600 cm³ PE/TG
Pos	**K**	**Stk**	**Designation**	**Order No.**
1			Fluid section	2329679
2		1	Pipe	369552
3		1	Cylinder	369553
4		1	Inlet housing	369554
5	◆	1	Piston	369555
6		1	Valve screw	369556
7	◆ ★	1	Ball guide, inlet	369507
8		1	Valve screw inlet	369558
9	◆	1	Valve seat inlet (carbide)	369509
10	◆	1	Valve seat outlet (carbide)	368509
11		1	Connecting flange	369551
16		1	Support ring	369566
17		1	Pressure ring	369567
18		1	Support ring	369568
19		1	Pressure ring	369569
20	◆ ★	2	Sealing collar TG	369570
21	◆ ★	3	Sealing collar PE	369571
22	◆ ★	2	Sealing collar TG	369572
23	◆ ★	3	Sealing collar PE	369573
25	◆ ★	2	O-ring	369575
27	◆ ★	1	O-ring	369527
28	◆ ★	1	O-ring	9971464
31	◆	1	Separating agent cup	368531
32	◆	2	Coupling cover	368532
40	◆ ★	1	Spirawave, crest-to-crest	9998834

◆ = Wearing part
★ = Included in service set

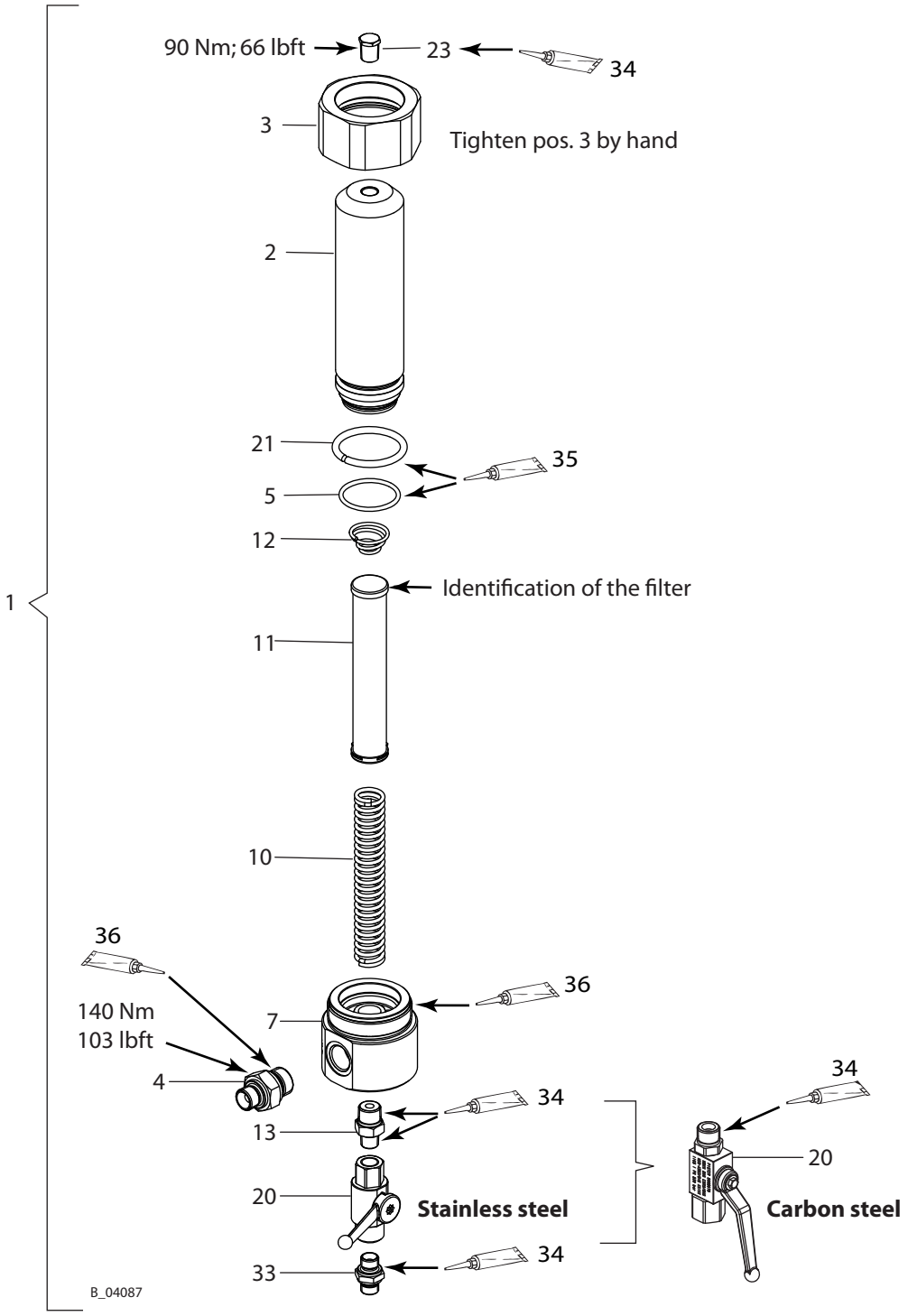

1
32
31
45
50 Nm
37 lbft
53
11
52
51
50 Nm; 37 lbft
44
16
21
20
21
20
21
17
40
100
60
2
47
220 Nm;
162 lbft
61
25
3
56
25
58
63
5
43
10
54
41
19
23
22
23
22
23
18
28
61
6
160-170 Nm
118-126 lbft
103
B_03977
4
7
42
27
9
46
57
8
105
48
49
50
55
62
65 Nm
48 lbft

Fluid sections spare parts list				600 cm³ PE/TG
Pos	**K**	**Stk**	**Designation**	**Order No.**
41	◆ ★	1	Spirawave, crest-to-crest	9998834
42	◆ ★	1	Ball (large)	9943086
43	◆ ★	1	Ball (small)	9943082
44	◆ ★	1	O-ring	9974123
45	◆ ★	1	O-ring	9974116
46	◆ ★	1	O-ring	369525
47		1	Rotary connection G3/4"	2329923
48		1	Fitting DF-MM-R1½"-G1½"-PN15-SSt	2329073
49		1	Sealing sleeve	2329072
50		4	Hexagon bolt	9907147
51		3	Washer	9920107
52		3	Hexagon bolt	9900157
53		3	Threaded bolt	368533
54		1	Shoulder ring	369564
55		4	Washer	9920107
56	◆ ★	1	O-ring	9974146
57	◆ ★	1	O-ring	9974145
58		1	Coupling peg 600	369562
60		1	Mobilux EP 2 grease	9998808
61		1	Anti-sieze paste, 100 g	9992609
62		1	Molykote DX grease	9992616
63		1	Loctite 270 50 ml	9992528
Packing, upper:				
100	◆	1	Packing PE/TG, complete	369994
Packing, lower:				
103	◆	1	Packing PE/TG, complete	369997
Valve seat, stainless steel:				
105	◆ ●		Valve seat set 600, in stainless steel version, consisting of: pos. Pos 9, 10, 27, 28	2331587
Service set:				
			Service set PE/TG	369989

◆ = Wearing part

★ = Included in service set

11.5 HIGH-PRESSURE FILTER (UP TO 530 BAR; 7687 PSI)



			Ball valve version in:	Stainless steel	Carbon steel
Pos	**K**	**Stk**	**Designation**	**Order No.**	**Order No.**
1		1	HD filter DN12-PN530 SSt, complete	2329025	2335334
2		1	Filter housing	2324542	
3		1	Union nut	2324543	
4		1	Fitting-DF-MM-G1/2-G3/8-PN530-SSt	2330780	
5	◆	1	O-ring	9955863	
7		1	Distribution housing for ball valve	2324670	
10		1	Filter support	9894245	
11	◆	1	Filter cartridge *		
	◆ ●		* Filter cartridge 200	295721	
	◆		* Filter cartridge 100	3514068	
	◆ ●		Filter cartridge 50	3514069	
	◆ ●		Filter cartridge 20	291564	
12	◆	1	Cone spring	3514058	
13		1	Fitting-DF-MM-R3/8-R1/4-PN530-SSt	2328291	
20	◆	1	Ball valve DN6-PN530-G1/4"-SSt	2330156	9998679
21		1	Pressure ring d45	2325562	
23		1	Hexagon plug	2323718	
33		1	Fitting-DF-MM-G1/4"-G1/4"-PN530-SSt	3204611	2325826
34		1	Loctite 542 50 ml; 50 cc	9992831	
35		1	Mobilux EP 2 grease	9998808	
36		1	Anti-sieze paste tube	9992609	

◆ = Wearing part

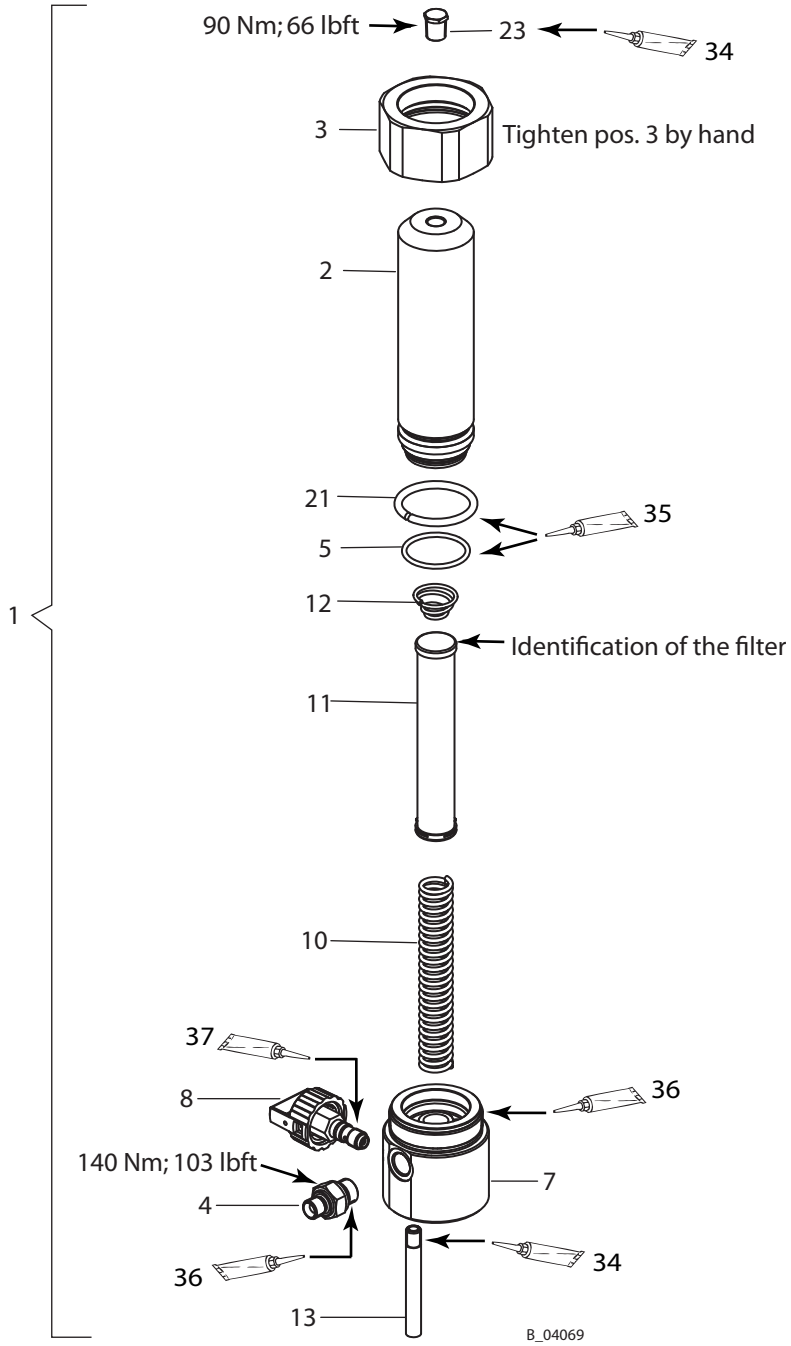
● = Not part of the standard equipment but available as a special accessory.

⚠ WARNING

Incorrect maintenance/repair!
Danger to life and equipment damage.

- → Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
- → Only repair and replace parts that are listed in the chapter "Spare Parts Catalogue" and that are assigned to the device.
- → Before all work on the device and in the event of work interruptions:
  - Disconnect the control unit from the mains.
  - Relieve the pressure from the spray gun and device.
  - Secure the spray gun against actuation.
- → Observe the operating and service instructions at all times when carrying out work.

11.6 HIGH-PRESSURE FILTER (UP TO 270 BAR; 3916 PSI)



				Ball valve version in:	Stainless steel
Pos	**K**		**Stk**	**Designation**	**Order No.**
1			1	HD filter DN10-PN270 SSt, complete	2329024
2			1	Filter housing	2324542
3			1	Union nut	2324543
4			1	Reducing double nipple with 2x60°	2325826
5	◆		1	O-ring	9955863
7			1	Distribution housing	2324544
8	◆		1	Relief valve	169248
10			1	Filter support	9894245
11	◆		1	Filter cartridge *	
	◆	●		* Filter cartridge 200	295721
	◆			* Filter cartridge 100	3514068
	◆	●		Filter cartridge 50	3514069
	◆	●		Filter cartridge 20	291564
12	◆		1	Cone spring	3514058
13			1	Outlet pipe	2324552
21			1	Pressure ring d45	2325562
23			1	Hexagon plug	2323718
34			1	Loctite 542 50 ml; 50 cc	9992831
35			1	Mobilux EP 2 grease	9998808
36			1	Anti-sieze paste tube	9992609
37			1	Molykote DX grease	9992616

◆ = Wearing part

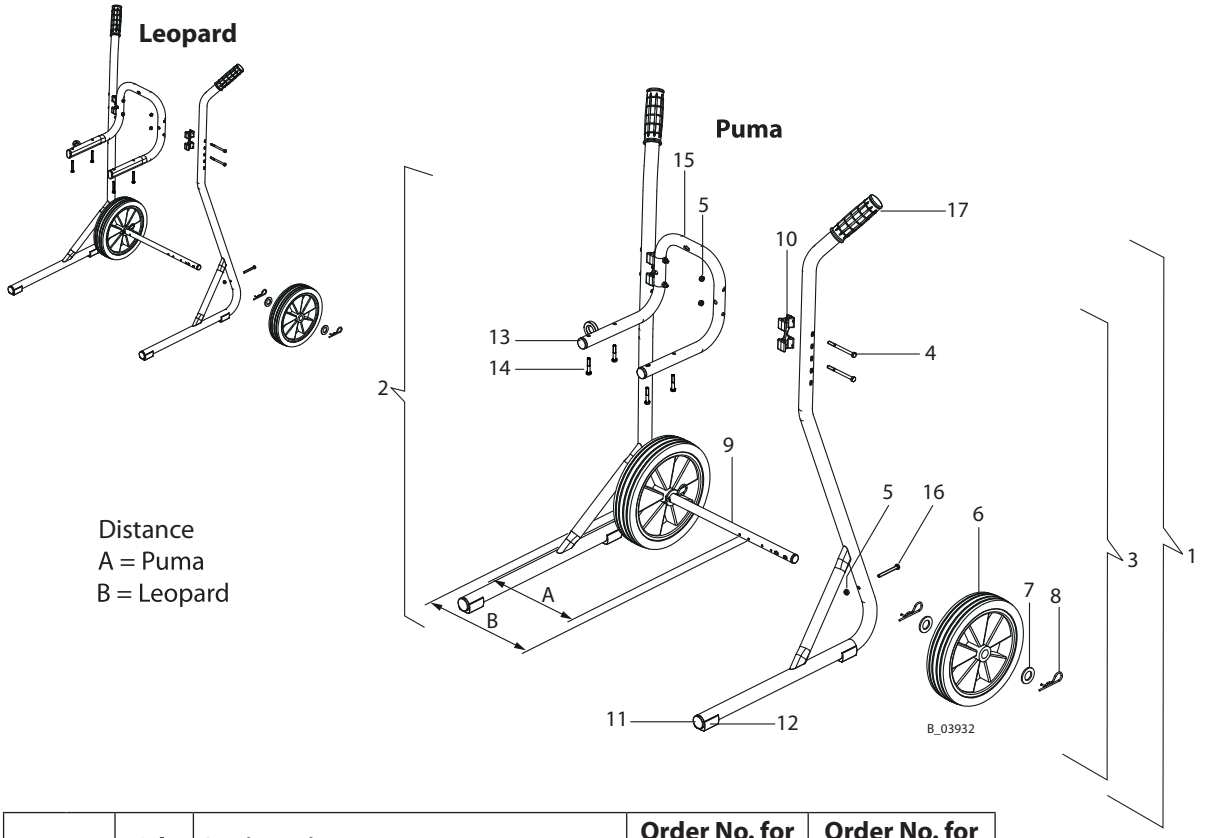
● = Not part of the standard equipment but available as a special accessory.

⚠ WARNING

Incorrect maintenance/repair!
Danger to life and equipment damage.

→ Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
→ Only repair and replace parts that are listed in the chapter "Spare Parts Catalogue" and that are assigned to the device.
→ Before all work on the device and in the event of work interruptions:
- Disconnect the control unit from the mains.
- Relieve the pressure from the spray gun and device.
- Secure the spray gun against actuation.
→ Observe the operating and service instructions at all times when carrying out work.

11.7 TROLLEY

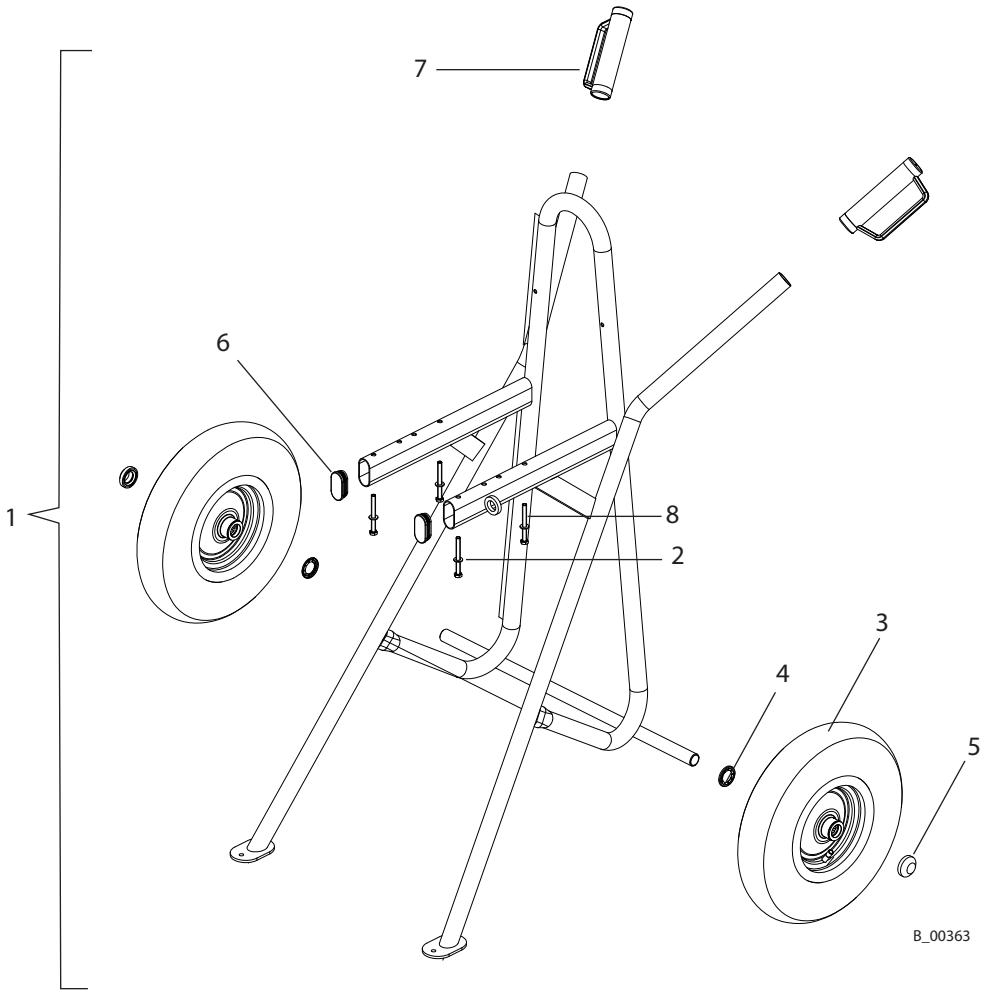


Distance
A = Puma
B = Leopard

Pos	K	Stk	Designation	Order No. for Puma	Order No. for Leopard
1		1	Trolley, complete	2325901	2325916
2		1	Stand, left, 4"-6" (welded)	--	
3		1	Stand, right, 4"-6" (welded)	--	
4		4	Hexagon screw DIN931 M6x75	9907140	
5		6	Self-locking hexagon nut, M6	9910204	
6	◆	2	Wheel, D250	2304440	
7		4	Washer	340372	
8		4	Cotter pin	9995302	
9		1	Wheel axle 4"-6"	--	
10	◆	2	Connecting part 4"-6"	367943	
11		2	Tube plug, ribbed	--	
12		2	Saddle feet for round tubes	--	
13		2	Plug	--	--
14		4	Hexagon bolt	9900218	9900126
15		1	Wall mount	2332143	2332145
16		2	Hexagon screw without shaft M6x55	3061695	
17	◆	2	Handle	9998747	

◆ = Wearing part

11.8 "HEAVY DUTY" TROLLEY



Pos	K	Stk	Designation	Order No. for Leopard	Order No. for Jaguar
1		1	Trolley, heavy duty	369024	
2		4	Washer, DIN125, A6.4 or A8.4	9920103	9920102
3	◆	2	Wheel	9998892	
4		2	Holding ring	9998894	
5		2	Quick fastener	9998895	
6		2	Stopper black	--	
7	◆	2	Handle with hand protection	9998893	
8		4	Hexagon screw DIN931 M6x75 or M8x80	9907140	9900151

◆ = Wearing part

12 GUARANTEE AND CONFORMITY DECLARATIONS

12.1 IMPORTANT NOTES REGARDING PRODUCT LIABILITY

As a result of an EC regulation effective from January 1, 1990, the manufacturer shall only be liable for his product if all parts originate from him or are approved by him, and if the devices are properly mounted, operated and maintained.
The manufacturer will not be held liable or will only be held partially liable if third-party accessories or spare parts have been used.
With genuine WAGNER accessories and spare parts, you have the guarantee that all safety regulations are complied with.

12.2 WARRANTY CLAIM

Full warranty is provided for this device:
We will at our discretion repair or replace free of charge all parts which within 36 months in single-shift, 18 months in double-shift or 9 months in triple-shift operation from date of receipt by the purchaser are found to be wholly or substantially unusable due to causes prior to the sale, in particular faulty design, defective materials or poor workmanship.
The type of warranty provided is such that the device or individual components of the device are either replaced or repaired as we see fit. The resulting costs, in particular shipping charges, road tolls, labour and material costs will be borne by us except where these costs are increased due to the subsequent shipment of the device to a location other than the address of the purchaser.
We do not provide warranty for damage that has been caused or contributed to for the following reasons:
Unsuitable or improper use, faulty installation or commissioning by the purchaser or a third party, normal wear, negligent handling, defective maintenance, unsuitable coating products, substitute materials and the action of chemical, electrochemical or electrical agents, except when the damage is attributable to us.
Abrasive coating products such as red lead, emulsions, glazes, liquid abrasives, zinc dust paints and so forth reduce the service life of valves, packings, spray guns, nozzles, cylinders, pistons etc. Wear and tear due to such causes are not covered by this warranty.
Components that have not been manufactured by WAGNER are subject to the original warranty of the manufacturer.
Replacement of a component does not extend the period of warranty of the device.
The device should be inspected immediately upon receipt. To avoid losing the warranty, we or the supplier company are to be informed in writing about obvious faults within 14 days upon receipt of the device.
We reserve the right to have the warranty compliance met by a contracting company.
The services provided by this warranty are dependent on evidence being provided in the form of an invoice or delivery note. If the examination discovers that no warranty claim exists, the costs of repairs are charged to the purchaser.
It is clearly stipulated that this warranty claim does not represent any constraint on statutory regulations or regulations agreed to contractually in our general terms and conditions.

J. Wagner AG

12.3 CE DECLARATION OF CONFORMITY

Herewith we declare that the supplied version of
Pneumatic pumps and their spraypacks

Puma	Leopard	Jaguar
8-300	18-300	38-300
3-600	8-600	

comply with the following guidelines:

2006/42/EC	94/9/EC (ATEX Directive)

Applied standards, in particular:

DIN EN ISO 12100: 2011	DIN EN ISO 13732-1: 2008	DIN EN 13463-1: 2009
DIN EN 809: 2012	DIN EN 14462: 2010	DIN EN 13463-5: 2011
DIN EN ISO 4413: 2011	DIN EN 12621: 2011	DIN EN ISO 80079-34: 2012
DIN EN ISO 4414: 2011	DIN EN 1127-1: 2011	

Applied national technical standards and specifications, in particular:

BGR 500 Part 2 Chapter 2.29 and Chapter 2.36	TRBS 2153

Identification:

CE Ex II 2G IIB c T3 X

EC Certificate of Conformity
The CE certificate of conformity is enclosed with this product. If needed, further copies can be ordered through your WAGNER dealer by specifying the product name and serial number.

Order number: 2302304

12.4 REFERENCE TO GERMAN REGULATIONS AND GUIDELINES

a) BGR 500 Part 2, Chapter 2.36 Working with Liquid Ejection Devices
b) BGR 500 Part 2, Chapter 2.29 Working with Coating Materials
c) BGR 104 Explosion protection rules
d) TRBS 2153 Avoiding ignition risks
e) BGR 180 Equipment for cleaning work pieces with solvents
f) ZH 1/406 Guidelines for liquid ejection devices
g) BGI 740 Painting rooms and equipment
h) Betr.Sich.V. Plant Safety Ordinance

Note: All titles can be ordered from Heymanns Publishing House in Cologne, or they can be found on the Internet.

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